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June 3, 1968

RAILWAY AGE

THE TRANSPORTATION WEEKLY

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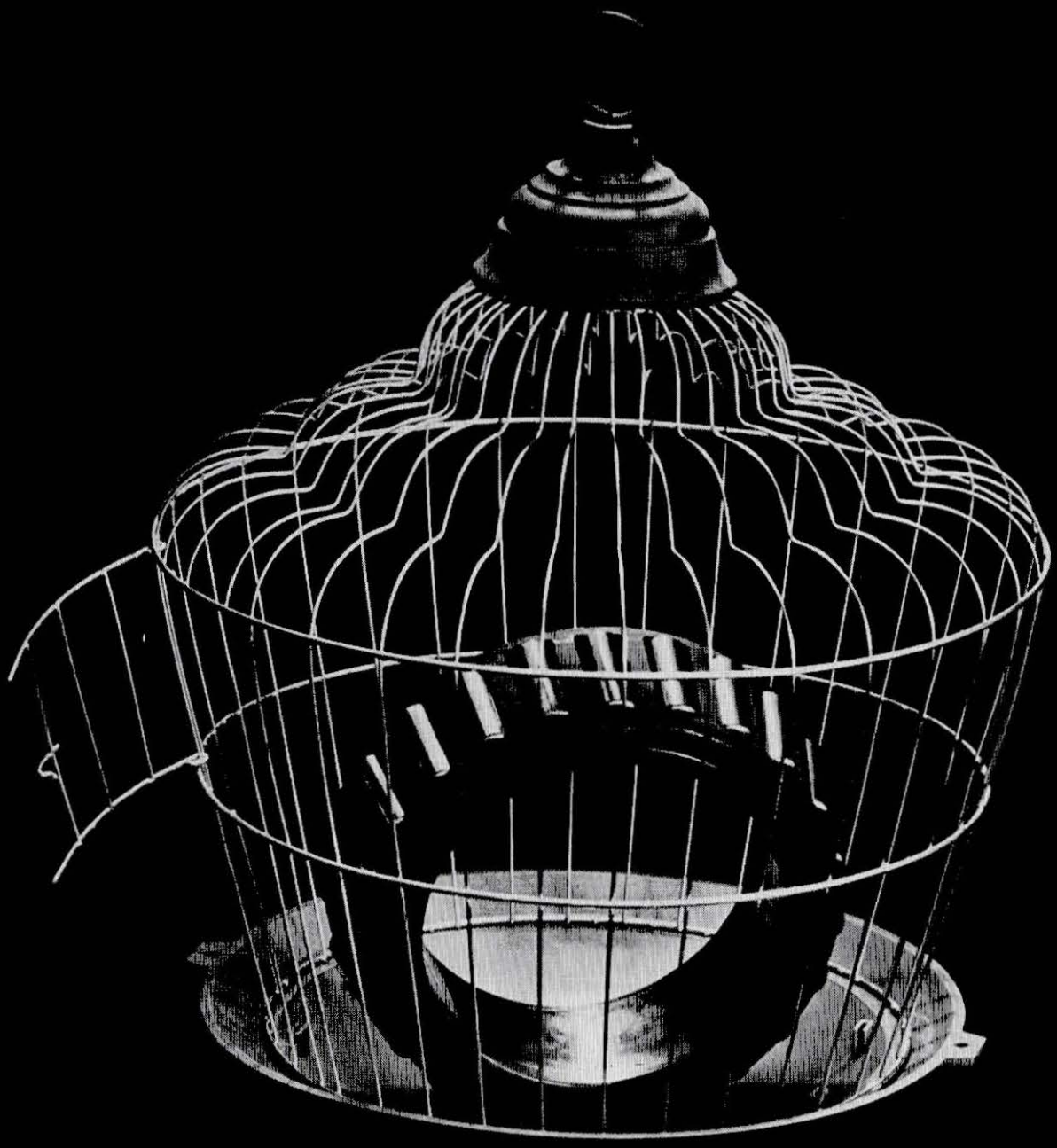

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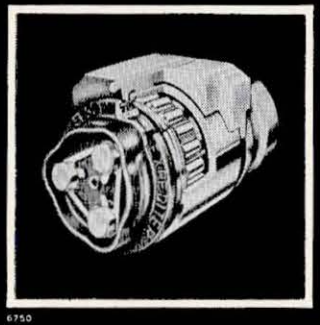

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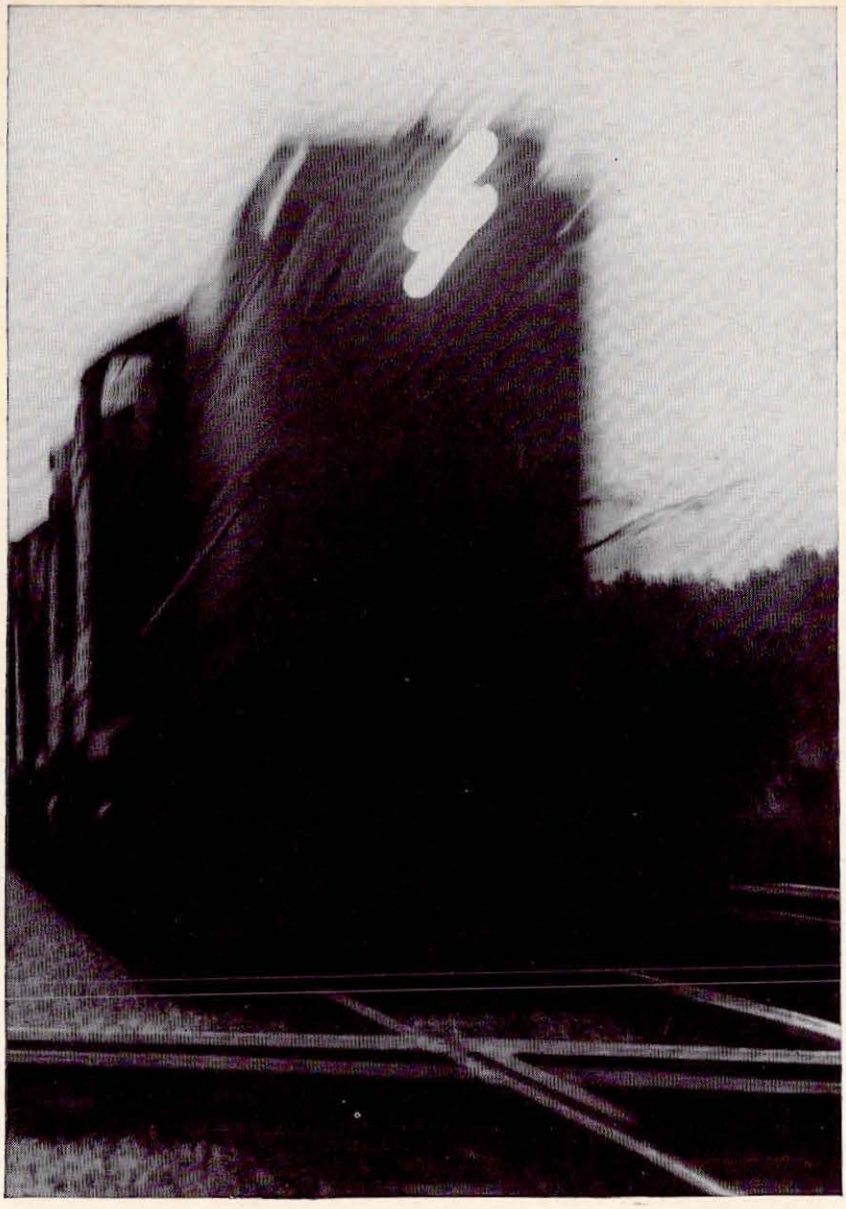

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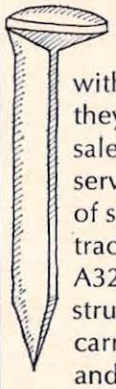

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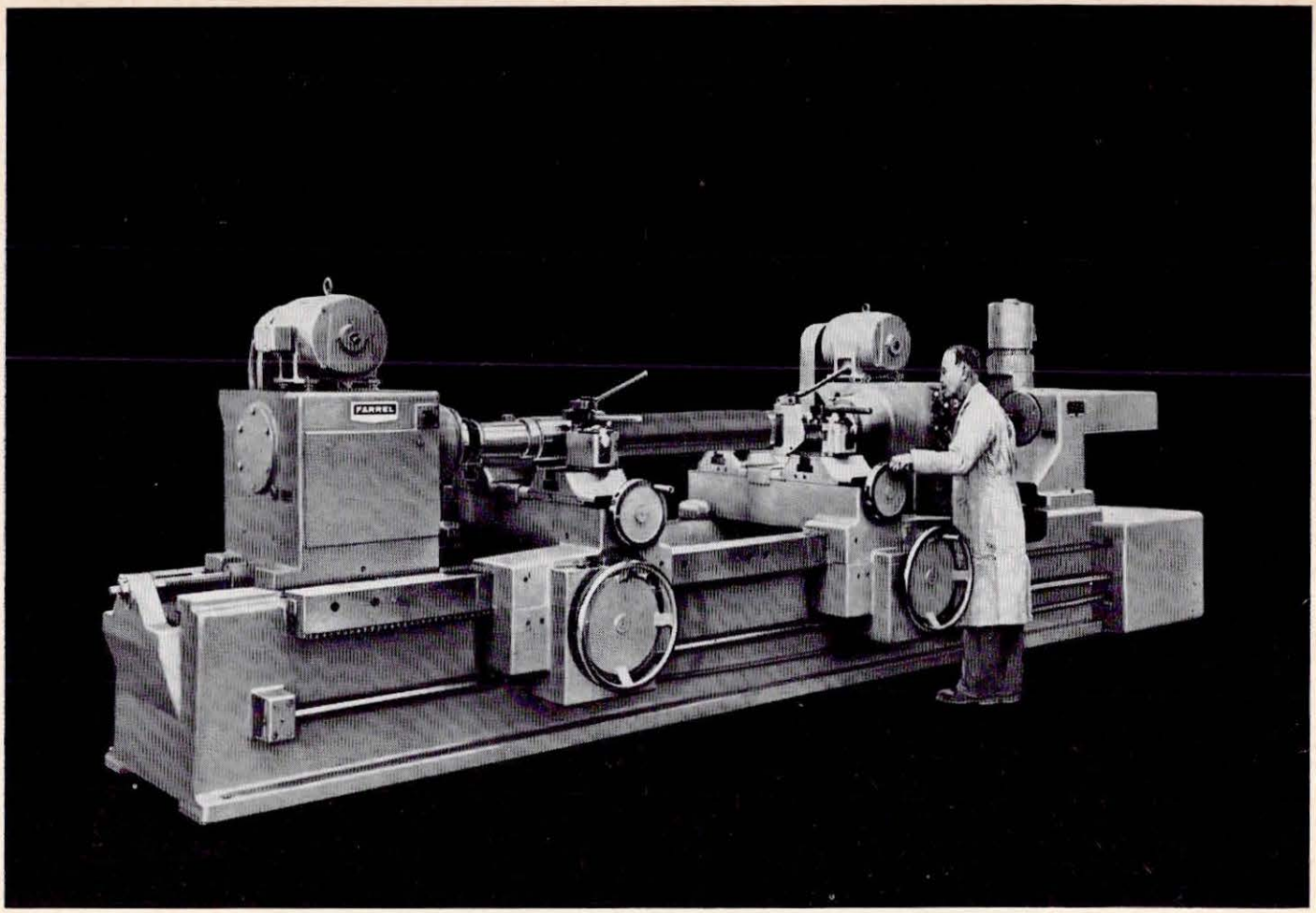

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RAILWAY AGE

June 3, 1968 • Vol. 164, No. 21

THIS WEEK

16 Toronto's total approach to transit

Why GO Transit and TTC are doing a customer-satisfying job.

20 Can transit move the mail?

The idea, successful in Europe, is being scrutinized here.

27 GE offers medium power diesel units

They come in two versions: one has six motors, the other four.

29 Reading saves via computers

The machines cut per-diem debit and car turn-around time.

48 Viewpoint: Toronto transit setup points the way

The city's transport system is a great people mover.

DEPARTMENTS

21	As the Editor Sees It	28	People in the News
41	Freight Carloadings	7	Short and Significant
38	Letters from Readers	15	Transit Roundup
12	Lines on Labor	48	Viewpoint
8	Monday Morning Report	22	Watching Washington
41	New Equipment	11	Week at a Glance
32	New Products Report	44	You Ought to Know

. . . AND COMING NEXT WEEK

When SP engineers designed a bridge to replace portions of a long timber trestle over San Francisco Bay, they had to keep a number of considerations in mind, including the need to maintain traffic during reconstruction. The result was a structure built of precast, pre-tensioned concrete components, which could literally be built around the existing bridge without encroaching on it. The job will be described in the June 10 issue. Also: RSMA shipper and railroad panelists explore a continuing problem—transportation quality control.

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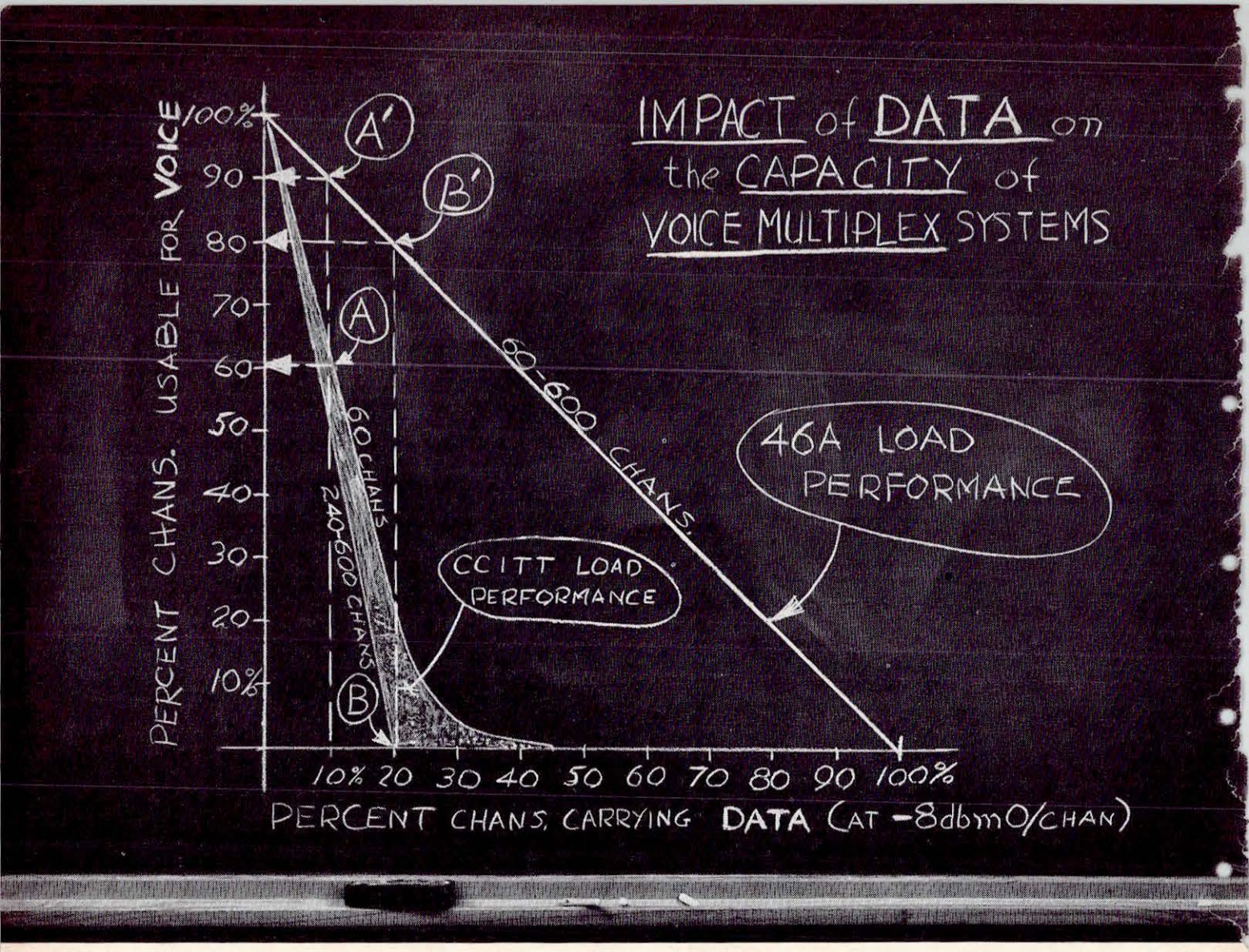

Here's the solution. Now: What's the problem?

Data is the problem. Can your communications facilities handle the growth of data traffic? Experts predict that by 1975 as much as 50% of your communications load will be data.

The cause of the trouble is data's loud voice. The established input level to a multiplex voice channel for multi-channel telegraph, data phone, or similar traffic is –8dbm0. But most of today's multiplex systems are designed to CCITT recommendations for voice loading, which is a lot less than data levels. Since you cannot decrease the data input level without drastically increasing error rate, you must reduce the channel capacity of most multiplex systems to balance the extra power load imposed by data.

That's what the graph above is all about.

The shaded area covers standard (CCITT) multiplex load performance based on established signal levels for data and voice, with a maximum noise contribution of 23 dba. The performance curve for Lenkurt's 46A is based on exactly the same loading conditions. The difference is the 46A's *4db better* noise performance, and a little noise makes a lot of difference.

Exactly how much difference appears on the graph. If, for example, you have a 60-channel CCITT system and 6 channels (10%) are needed for data, you can see at point *A* that only 60%, or 36 of the remaining channels, are usable for voice. *You've just lost 18 voice channels.* But with the 46A, all the remaining 54 channels are usable for voice (see point *A'*).

Now let's step ahead a few years: You have a 300-channel CCITT system and need 60 of them (20%) for data traffic (Point *B*). You have to remove *all the rest* of your channels from service. What's worse, you'll have to carefully distribute those 60 data channels throughout the full system to prevent overloading your group and supergroup amplifiers. And if your microwave system is not rated better than CCIR performance, it might not be up to handling this load, either.

Lenkurt's 46A, though, under the same conditions, leaves *all of the remaining 240 channels* available for voice traffic (Point *B'*). And our 75 and 76 microwave systems, which are rated much better than CCIR, can easily handle this load.

So the problem is data vs. voice loading. The solution lies in Lenkurt's design criteria, which considers future traffic loads as well as today's. We consider anything less than that to be shortsighted.

For the complete story of the *impact of data on the capacity of voice multiplex systems,* contact your nearest Lenkurt office or send for our new 46A engineering manual: 46A-ENG/EE. Lenkurt Electric Co., Inc., San Carlos, California. Offices in Atlanta, Chicago, Dallas, New York, San Carlos.

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SHORT AND SIGNIFICANT

New rail survey puts '68 spending at higher rate

The official estimate of railroad capital spending for 1968 (a Department of Commerce projection) is still $1.27 billion. But an unofficial survey by McGraw Hill now puts the figure at $1.35 billion. Even the McGraw Hill estimate is, however, 12% below actual expenditures of $1.53 billion in 1967—and that figure itself was a substantial drop from the high mark of $2 billion reached in 1966. While industry observers see the McGraw Hill forecast as reasonable at the present time, they agree that it is subject to change—upward, if ton-miles continue to pick up and the railroads win their pending rate increase; downward, if the reverse is the case.

Budd, Menk, Lang to address Superintendents

The 72nd annual meeting of the American Association of Railroad Superintendents gets under way June 18 in Minneapolis, with a program that includes addresses by Great Northern President John M. Budd, Northern Pacific President Louis W. Menk and Federal Railroad Administrator A. Scheffer Lang. Also on the card are reports and discussions on car-utilization control devices, ACI, terminal operations, service improvement and operating ratios.

Railroader is named to post with DOT

The Department of Transportation has announced the appointment of Harold E. Levine, 45, of Boston, as special assistant to A. Scheffer Lang, administrator of DOT's Federal Railroad Administration. Levine has held various positions, including director, on six short line railroads, and was a representative of W. R. Grace from March 1965 to the present.

Initial tally of votes favors D&H-N&W merger

The hotly-contested case involving proposed merger of the Delaware & Hudson with the Norfolk & Western went to a vote of D&H shareholders last week, and the first count showed the vote in favor of consolidation. Former D&H President and Chairman Frederic C. Dumaine, Jr., who heads up a group of shareholders opposing the merger, immediately challenged the vote count. A final report will be made at a special meeting called for June 3. Sale of D&H requires approval by two thirds of the 1.5 million shares of stock outstanding. The road's management favors joining the N&W, while the Dumaine faction wants D&H to remain independent as the principal road in a Northeastern rail system.

High-speed tube train system is being studied

Trains that could zip along at 400 mph in sealed tubes on existing railroad rights of way were described at a symposium on transportation in New York last week by an aeronautical engineer. Dr. William B. Brower of Rensselaer Polytechnic Institute, of Troy, N.Y., has been working on the project for the last two years under a federally-sponsored research grant. "Project Tubeflight" involves a 2,000-foot scale model of the tube system, in which a train would be propelled by a jet engine and glide almost friction-free on a cushion of air supplied by its own pumps. A working model would have a train 9 feet in diameter and a tube 15 to 18 feet wide.

Railroads say rate increases are urgent need

AAR Economist Burton N. Behling told the ICC last week that the railroads' request for rate increases should be approved promptly since an emergency now exists "requiring immediate action to stem inflationary erosion." Behling said the impact of inflation on rail costs and earnings "has become progressively more serious," and the ability of the railroads to maintain adequate services to shippers and to get funds for improvements "is deteriorating markedly." He said a delay in granting the rate increases would be dearly bought at the expense of the railroad industry and at the sacrifice of adequate and improving services to shippers in the future.

MONDAY MORNING REPORT

SAFETY ISN'T A LEGISLATIVE THING

Safety, like motherhood, the flag and orphans, is subject matter that, as George Goebel might say, "you can't hardly find anybody against." And that's as it should be. Safety, to uncoin a phrase, is everybody's business—and it affects everybody's business, including the railroads'. Needless to say, the problem of railroad safety should never be used as a political device to get federal regulations passed just for regulation's sake.

STRONG SUPPORT—BUT WITH RESERVATIONS

The Railway Labor Executives' Association is one of the loudest supporters of new railroad safety legislation proposed by the Department of Transportation. As a matter of fact, RLEA has proposed 44 amendments to the proposed bill which, paradoxically, would nullify the safety enforcement authority of the Secretary—when the regulations to be enforced were in conflict with collective bargaining agreements.

PAINTING AN OMINOUS PICTURE

In an outrage-type horror pamphlet filled with photos of smoldering tank and freight cars at scenes of rail accidents over the years, the labor organization uses vivid language to make its point. "More and more," the pamphlet warns, "train wrecks threaten whole communities. Flames, explosions, seepage of poisonous chemicals endanger homes and lives . . . yet no law exists with the scope to make railroads operate safely."

SAFETY IS THE PROPER ATTITUDE

The photos are real enough, and the accidents did happen. It's just that dramatic accident pictures and bold red pamphlet headlines don't always a convincing case make. Less dramatic, perhaps, but more to the point was testimony made last week at a House hearing by L&N director of safety, H. S. Daulton. He pointed out that while DOT has made much of the increased number of "train accidents" between 1961 and 1967, no mention has been made that casualties resulting from these accidents had shown "a positive improvement of 24.3% in the same period." And, added Daulton, a great majority of "train accidents" did not result in death or injuries to anyone and, indeed, many were grade crossing accidents which are more an element of highway than of railroad safety. "Safety," concluded Daulton, "is akin to morals and is something that cannot be controlled by legislation . . . a man with the proper attitude toward his safety and that of his associates is bound to be a good worker and a safe worker. Government regulation cannot take the place of that attitude or create it."

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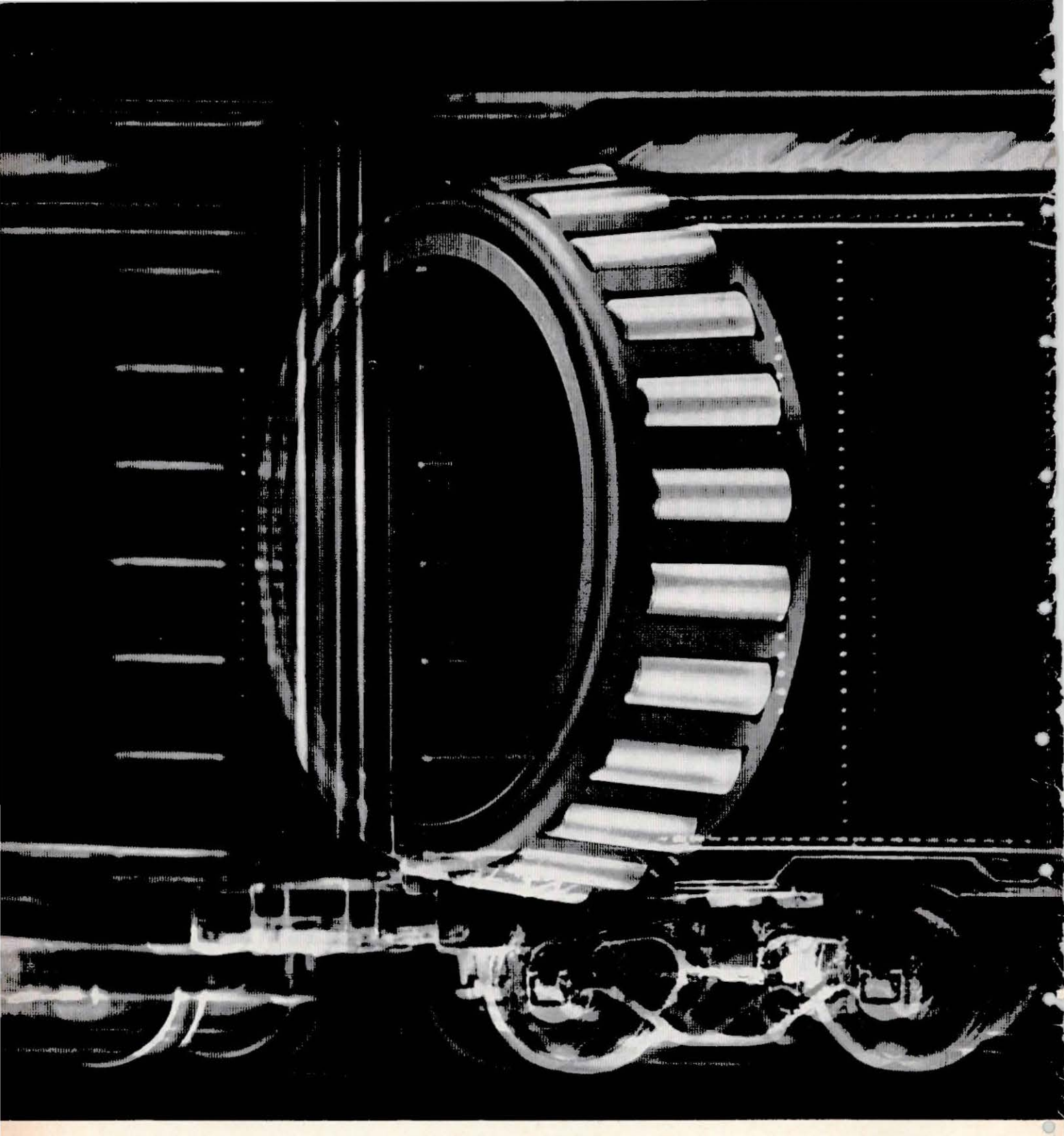

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WEEK AT A GLANCE

Rising need seen for coal by rail in New York area

Coal—which now supplies nearly half of the power consumed in the tri-state New York metropolitan region—will supply only one-fourth of the region's power needs by 1985. But absolute demand for coal will rise—from the present 30 billion kilowatt-hours to an estimated 50 billion kilowatt-hours. This is because total power needs are expected to rise from 63 billion kilowatt-hours to 200 billion during the period, and nuclear power even by 1985 will be meeting only 40% of needs.

These are the conclusions of the Tri-State Transportation Commission in a new report, "Power, Fuel and Land Use," released May 29.

The commission sees only a modest future for mine-mouth generation of power transmitted via high voltage lines.

Car orders are up for four months, but backlog lags

Class I railroads and private car lines placed orders for 17,913 new cars in this year's first four months—a substantial increase over the corresponding 1967 period, when 12,190 new units were ordered. But the '68 orders look good only in comparison with the unusually depressed market of '67, when suspension of the 7% investment tax credit caused a virtual drying-up.

To railroad men as well as suppliers, the key figure is the order backlog—and here the comparison is bleaker. On May 1 this year the backlog of new cars on order and undelivered was only 20,364; on May 1, 1967 the backlog was 34,960. (For details, see page 41).

Intermodal distribution offered by L&N

Shippers of liquid and dry bulk products are being offered intermodal (rail-truck) distribution services at Louisville & Nashville terminals in Atlanta, Louisville and New Orleans. Plans are to extend the service to other key points.

The intermodal distribution combines the economy of rail transportation with the speed and convenience of truck delivery. The three L&N terminals are operated by independent firms, and provide highway delivery of bulk products within 200 miles of the terminals.

Penn Central has found similar intermodal operations to be very successful through its "Flexi-Flo" service.

Smithsonian gets "Big John" model

A model of Southern's history-making "Big John" hopper car was accepted last week for display in the Smithsonian Institution's Museum of History and Technology. "Big John" is the huge aluminum-bodied covered hopper car which made transportation history by revolutionizing the hauling of grain, and as the first of a new generation of light-weight, high-cube, high-capacity freight cars for moving bulk commodities. The working scale model was presented to the museum by Reynolds Metals Co., which assisted Southern's engineers in designing the car and supplied the aluminum used in constructing the more than 1000 "Big Johns" now in Southern's fleet. Making the presentation was David B. Reynolds, executive vice president of the company. Accepting the model for Smithsonian was John H. White, Jr., curator of land transportation. Other participants were W. Graham Claytor, Jr., Southern president, and D. W. Brosnan, Jr., president when Big John was developed.

GUS WELTY

LINES ON LABOR

THEORETICALLY, at least, the people who work in an industry ought to be the first to support the positive programs and the vital programs of that industry, or of their own particular company. But there is a wide gap, or so it often seems, between that theory and the actual practice in the railroad business.

IN RECENT WEEKS, there was the example of the Rent-A-Train hearings. Here was a dramatic new concept in rail operation, on trial before an ICC examiner. Here was a concept with the promise of new rail traffic, new revenues and, presumably, even new rail jobs. Here was an opportunity for rail labor to take a positive stand on a positive program —in its own interest as well as that of the carrier and the industry. Question: Where were rail labor's spokesmen? Answer: Among the missing.

RAIL LABOR'S LEADERS sometimes seem to be operating on the theory that "if you can't say something bad about the industry, don't say anything at all." But there are, of course, exceptions—and one of them is C. L. Dennis, president of the Brotherhood of Railway and Airline Clerks. Dennis is as upset as anybody in management at the new round of legal maneuvering to delay Burlington Northern merger—and he's prepared to make his opinions known in Washington, where they may count for something.

NATURALLY, Dennis' concern is not entirely with the fortunes of the railroads. Excellent labor-protection agreements are involved in the merger. Unions, the Clerks president believes, will be better off after merger than they are today —and the Justice Department, by its latest delaying move, "is injuring the welfare of the people involved."

NOBODY WOULD EXPECT a union leader to commit political suicide by speaking out in favor of a management position where there could be detrimental effects on the employee. But there are many instances in which positive action could be taken. Even in situations where short-range loss promises long-range gain, union people could afford to be moderately daring in their outlook. Political suicide is really rather hard to commit, and relatively few union leaders are flung out of office for whatever cause. Finally, you have to wonder what manner of evil, to industry and employee alike, is being done by those whose policy—to borrow LBJ's word—is one of constant "bad-mouthing."

Southern Pacific to drop "Sunset"

The Southern Pacific has served notice that its "Sunset" trains operating in both directions between Los Angeles, Calif., and New Orleans, La., will be discontinued June 24. The service on these trains is the basis of complaints out of which has come Examiner John S. Messer's recommended report advising the ICC to order their service improved, and to require the railroads generally to develop a National Rail Passenger System (RA, Apr. 29, p. 48).

SP's 30-day notice of discontinuance was filed under the 1958 Transportation Act's so-called train-off provisions, which are now in the Interstate Commerce Act's Section 13a. Exhibits accompanying the notice put losses from operating the trains at $3,398,400 for 1966, $5,374,700 for 1967, and $1,156,700 for this year's first quarter.

Boyd testifies on safety bill

The House Committee on Interstate and Foreign Commerce got its chance last week to question Secretary of Transportation Alan S. Boyd about the railroad safety bill sponsored by the Department of Transportation which Boyd heads and about Boyd's opposition to the committee's pipeline safety bill.

The call for Boyd's appearance had come from committee members the previous week when DOT's federal railroad administrator, A. Scheffer Lang was making a presentation in support of the railroad bill (RA, May 27, p. 12).

The call reflected resentment of some committee members about a Boyd speech criticizing the committee's pipeline bill. Some of the disgruntled committeemen told Boyd that he should have come to the committee first with his complaints, and others said that provisions of the pipeline bill which he assailed had been drafted at DOT.

As to the former, Boyd said he did come to the committee first, having written it a letter before it cleared its bill for the House calendar. Boyd found "very interesting" the statement that some provisions which he opposes were drafted at DOT. If they were, he did not know it, he said, and he promised to look into the matter, adding: "If my department drafted that language, I'm a way off base. If I find out it did, I'll write the committee an apology."

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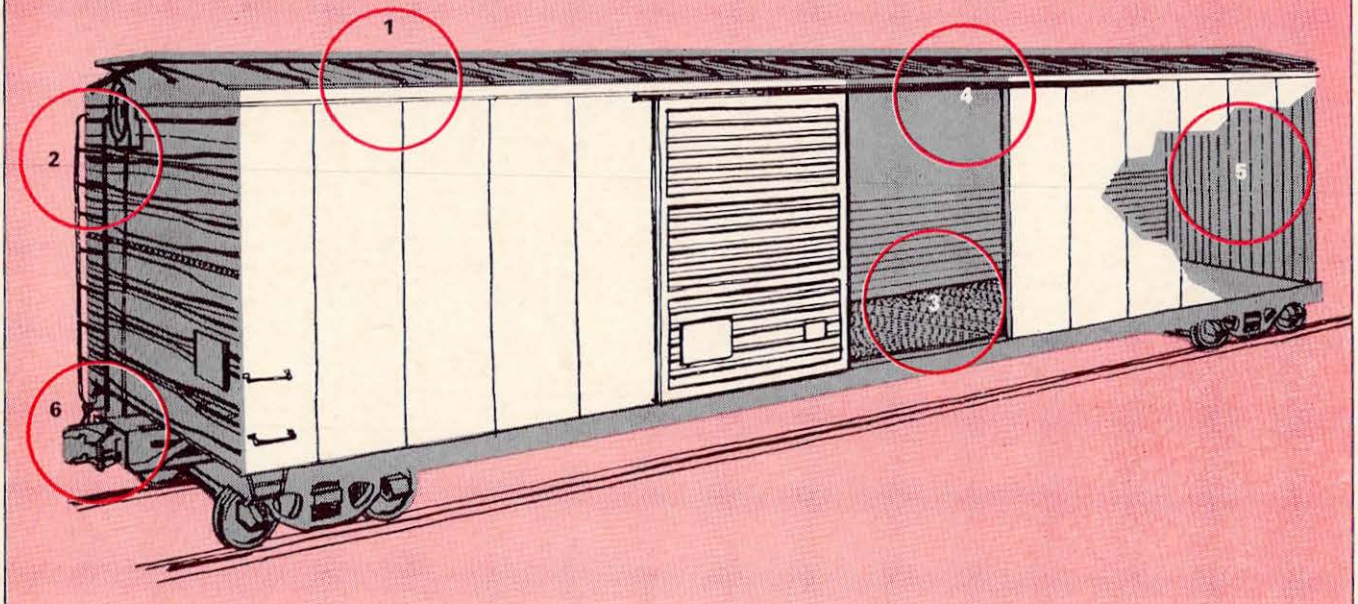

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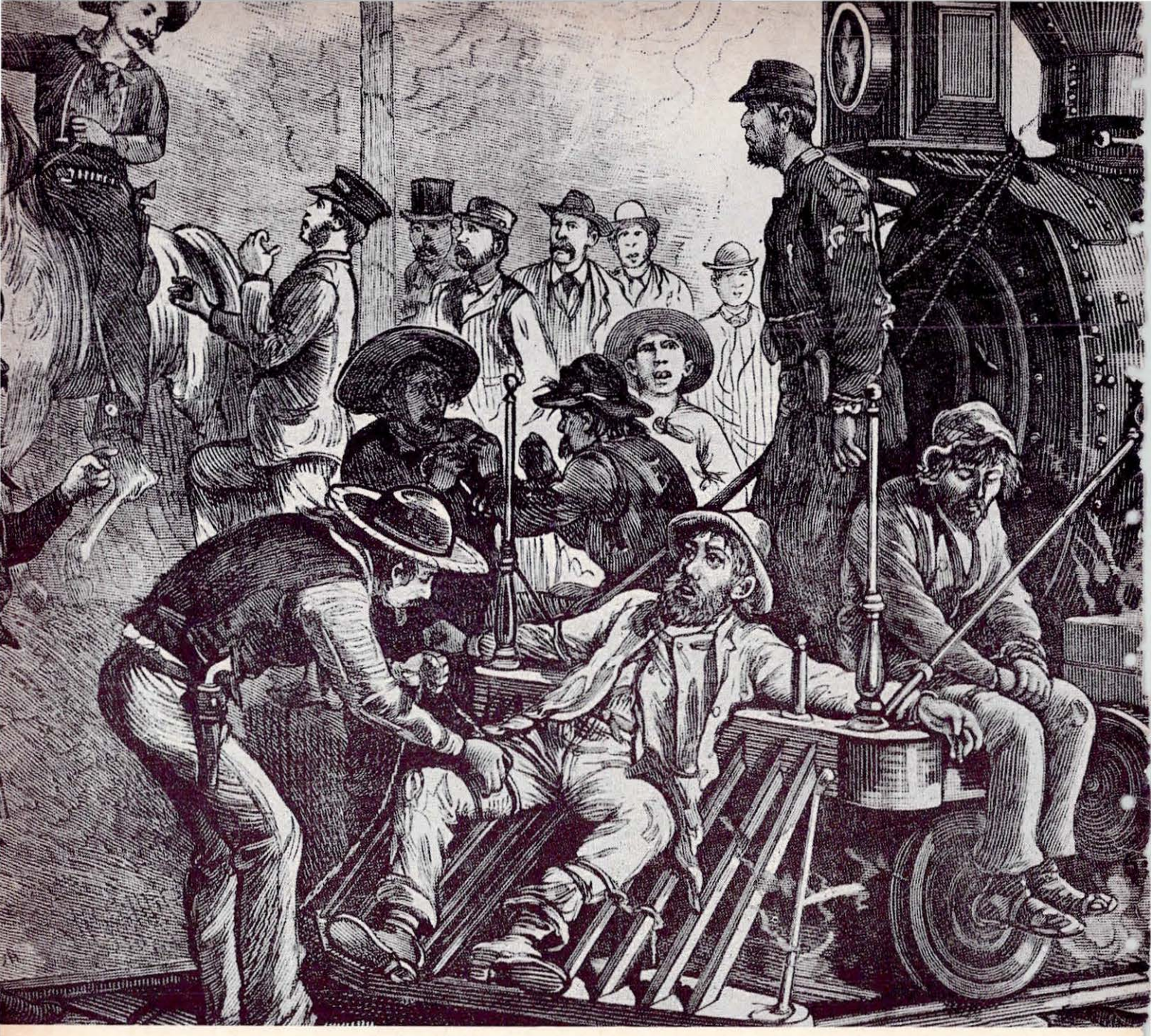

In the 80's, railroads occasionally carried other than revenue freight and conventional passengers, usually by arrangement of a local clean-up committee.
The American West, Lucius Beebe and Charles Clegg

"Can't this railroad afford aluminum cars?"

Afford them, yes. Need them, possibly. Working with your own people, our Railroad Consulting Team can determine whether or not aluminum equipment is practical for your operation. These knowledgeable men are amazingly fast, efficient and objective . . . they examine the alternatives from your point of view.

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TRANSIT ROUNDUP

FEDERAL CHANGES: Interim Administrator of the Urban Transportation Administration will be John Robson, who was nominated by President Johnson to be Under Secretary in the Department of Transportation. Robson formerly served as DOT's general counsel. Target date for the move of UTA from Housing and Urban Development over to DOT is July 1.

DOT Secretary Alan Boyd served notice he wants some changes in criteria for making grants to cities—including transit grants. He said he thought present rules too rigid and left no room for experiment.

LOS ANGELES THINKS BIG: The final report on preliminary planning and engineering design of the projected system for the Southern California Rapid Transit District shows some important modifications of earlier plans—all in an upward direction.

Joint-venture consultants Kaiser Engineers and Daniel, Mann, Johnson & Mendenhall recommended a five-corridor 89-mile system, in place of the earlier four-corridor 62-mile system. Some extensions and realignments of the original four legs are involved here, but the big addition is of a complete new line to the southwest, serving the airport. Such a line had long been under study; the big questions had been whether or not to integrate it in the SCRTD plans and include it in the first phase. The price tag for the 89-mile system plus 300 miles of feeder bus services: $2.5 billion. The four-leg system remains in the report, should financing of the favored system not be feasible. Current financing studies are centered on a general sales tax, probably ½ of 1%.

EXOTICS FOR MIAMI? Dade County Commissioners authorized a study of use of the Florida East Coast's right of way for transit purposes. A road-rail vehicle of the sort demonstrated by Philadelphia Suburban Transit officials is under consideration. Coverdale & Colpitts are doing the study.

At the same time, consultants Simpson & Curtin and Kaiser Engineers are studying other possible transit corridors. One concept under discussion has been use of some light transit vehicle, a sort of mini-vehicle, to run parallel to the shore and serve built up areas.

WASHINGTON SETS DATE FOR DIGGING: The target date for beginning construction of the Washington Metropolitan Area Transit Authority system is Oct. 1. Construction appropriations needed this year are $85 million, of which two-thirds are due from the federal government, one third from the District of Columbia.

In the interim, a $495,000 contract was awarded to the joint-venture consultants W. C. Gilman Co. and Alan Voorhees and Associates to develop detailed projections of patronage, costs and revenues for the future system. Skadberg-Olson, who designed shops for the Chicago Transit Authority, were awarded a $439,000 contract to design WMATA shops, which will be located near T Street N. E.

COMMUTER-TRANSIT TIE-IN FOR CHICAGO: Some of the commuter roads leading southeast from the city into Indiana are cooperating with Chicago Transit Authority on a study to find ways to eliminate redundant service and possibly merge certain operations. Being examined are such things as passenger interchange between carriers, and coordinate stations.

In the meantime, detailed engineering studies continue of the new Loop subway to replace the present El. One belt line would link the commuter railroad stations surrounding the loop; another new line would function as a shuttle subway running east and west across the Loop.

TELL IT LIKE IT IS: The Automotive Safety Foundation of Washington, D. C., issued a 72-page report entitled "Urban Transit Development in 20 Major Cities." The report surveys present activities and plans, is generally factual and avoids editorializing.

But the (anonymous) authors couldn't resist calling attention to alleged drawbacks of rail rapid transit: Fixed and immovable facilities, high construction costs, and inability to economically serve low population density in an age of progressively greater population dispersal around major centers.

On the other hand, nothing is said about air pollution, or parking problems, or thousands killed or injured in accidents every year on the highways.

So far as population dispersion is concerned, it's worth noting that the Urban Land Institute just held a four-day conference in Atlanta for top-level real estate developers, planners and architects from all over the country. Purpose of the meeting: To explore ways in which housing densities can be raised, in order to hold the line on home-buying costs. Perpetual surburban sprawl was not considered one of the ways.

MINSK JOINS THE TRANSIT LIST: Soviet officials announced that Minsk would become the eighth city in the USSR to get a rapid transit system. Design work began a year ago in Tashkent; and other systems are those in Moscow, Leningrad, Kiev, Kharkov, Tbilisi and Baku.

TORONTO'S TOTAL APPROACH TO TRANSIT

One element in the city's total approach has been GO Transit's free parking, kiss 'n' ride driveway loops (see photo at left), good rush-hour service and easy-to-remember off-peak schedules.

Toronto can be a city of contrasts.

A cabbie, talking about public transportation, is somewhat inaccurately scornful: "Yeah, we're modern," he says. "We're so modern we're the only city on the continent with streetcars still running."

A highly-placed public official, talking about a massive downtown redevelopment plan with transportation overtones, takes a deep breath and sighs: He could retire comfortably, he hints, if he had a dollar for every grand-plan that's ever been proposed.

A suburban mayor, snipping the ribbon for a subway-extension opening, gets lyrical: This day, he says, will be "depicted pictorially and in song and verse for many years to come."

A reporter, looking briefly at what Toronto has done and is doing in public transportation, comes away with a conviction: Toronto doesn't have to take a back seat to any city or any metropolitan area in its total approach to the problems of people and mobility.

● **The record, in mid-1968, is impressive:**

—A few weeks ago, the Toronto Transit Commission opened extensions at each end of its east-west subway. A few weeks from now, ground will be broken for a major extension to the principal north-south lines. At least two other possible rapid-transit extensions are being looked at.

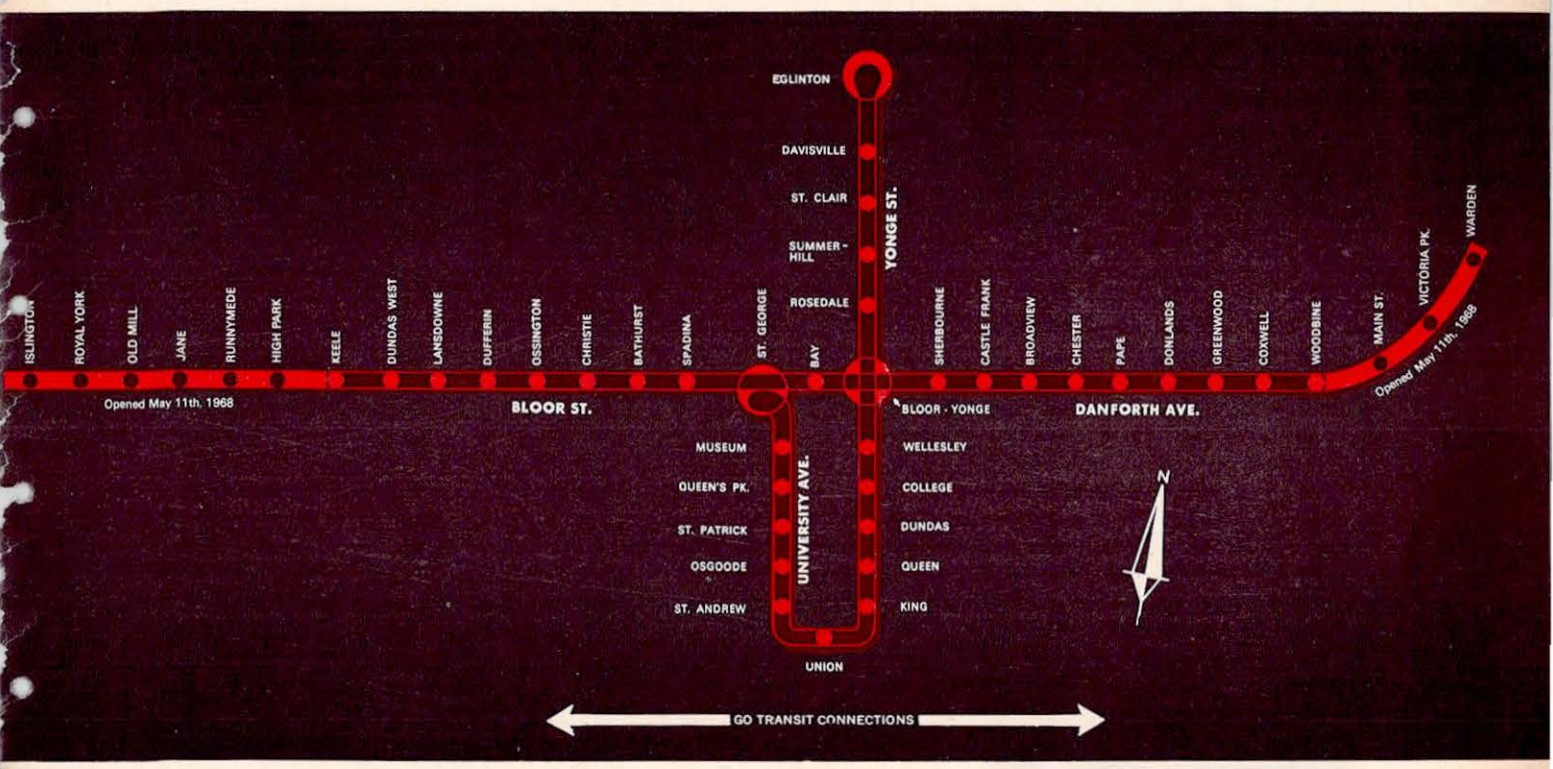
—GO Transit, the longer-haul operation which is half rapid-transit and half conventional-railroading, is winding up a year of highly-successful experimentation and preparing to draw preliminary conclusions. Already, however, GO people have begun accumulating a file of cards and letters asking for extension of the service to other rail corridors in the metropolitan area.

—The downtown redevelopment plan hasn't been fully detailed as yet. But indications are it would be sparked by Canadian National and Canadian Pacific in a broad area around Toronto Union Station. And a part of the plan would bring together virtually all forms of public transportation operating in and through the city.

To some, it might seem ironic that all this attention to public transport and all the new planning come at a time when both TTC and GO Transit are experiencing a certain leveling-off in patronage. Irony, however, is only skin-deep: TTC's plateau comes after five years of steady and substantial growth, and the two new subway extensions may well get the figures climbing again; and GO Transit has simply hit its peak-hour capacity, with off-peak patronage left as the only tappable source of additional riders.

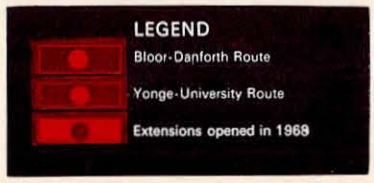
● **TTC looks ahead.** From a planning standpoint, long-established TTC is out in front. GO Transit is still new —it has been in full operation for little more than nine months, and it will be at least another year before evaluation can be completed and before decisions can be made on possible service expansion.

For TTC, a few things are certain. For one, in July or August, work will start on a four-mile extension of the north-south Yonge Street subway, from its present terminal at Eglinton to Sheppard Avenue. This is a $79-million project. It could grow into a $100-million job, if a decision is made to push the line still farther out to Finch Avenue, at a point where some observers believe a better terminal facility might be built. And at some time a bit more into the future, TTC will be in the market for new equipment—64 cars, by current estimates. The ex-



TTC CONTINUES TO EXPAND ITS LINES

Recently opened Toronto Transit Commission extensions are indicated on system map (above). Union Station, at the bottom of the map, is the interchange point between GO Transit and the TTC. Photograph at left shows train operating in open cut between Warden and Victoria Park stations on TTC's new eastern extension. The cut parallels a major electrical transmission line.



COMMUTERS CAN BE ENTICED OUT OF THEIR

isting fleet will be able to handle service on the new extensions to the Bloor-Danforth line, but opening of the Yonge Street extension will require additional cars.

What's next for TTC? After Yonge Street, it could be a north-south route following the Spadina Expressway, now under construction with median-strip rapid-transit space built-in. Or it could be a new east-west line, along a Queen Street alignment, south of the Bloor-Danforth route. Perhaps farther into the future, there could also be a line extending northeast from Warden Avenue, eastern terminal on the extended Bloor-Danforth line.

● **Answers needed.** As might be expected, all these proposals are open for debate. Extension of the Yonge Street line from Sheppard to Finch comes under some criticism on grounds that it would give primary benefits to people living outside of Metropolitan Toronto, the 13-municipality federation set up in 1953 to provide major regional services. On the Spadina Expressway line, there's a question as to where the new tracks should come into the east-west Bloor-Danforth route. On the Queen Street proposal, there's debate as to how much of the line should be subway and how much surface operation. And in all cases, there's the question of priorities which should be assigned.

While the future is being pondered, however, TTC will also be keeping a close watch on the present—and on the service impact of the Bloor-Danforth extensions.

In terms of length alone, the two extensions don't seem major. From the former western terminal at Keele Station, the line has been extended 3.49 miles to Islington Avenue. From the former eastern terminal at Woodbine Station, the line now stretches 2.77 miles farther out, to Warden. These are, however, the first subway lines into Toronto's suburbs. And, as one TTC commissioner puts it, the patronage coming from the extensions may be a pleasant thing to contemplate.

● **Up and up.** Further revenue-passenger increases would, indeed, be welcome. Over the past five years, patronage has considerably gone up—but the rate of growth has fluctuated from less than 1% in 1963, on a total-system basis, to 4.6% in 1965 and 6.6% in '66. For 1968, the rate of gain is again estimated at under 1%.

TTC people are realistic, in looking for reasons for the recent slowing of the growth rate. There's been a certain shaking-down of personal travel patterns since the opening of the University line in February 1963 and the start of service on the original eight-mile Bloor-Danforth line in February 1966. There's also been a certain amount of expressway construction in recent years which has made automobile commuting somewhat less of a chore.

TTC's managers are also realistic about their costs—with full knowledge that they're going to experience sharp cost increases this year. Among various factors involved: The provision of improved feeder service to the stations on the subway extensions. The new Metro Transit System map, distributed in connection with the extension openings, shows 44 new and changed routes.

Transit commissioners and TTC operating managers do their planning from offices atop a Yonge Street subway station near the north end of the line. Downtown, in equally-modern quarters, GO Transit—Government of Ontario Transit—is beginning to get a handle on just exactly what GO has done for public transportation in the corridor stretching 60 miles from Hamilton, Ont., on the west to Pickering on the east, via Toronto Union Station.

● **Four million, and more.** Go Transit's first trains ran May 23, 1967—and two days before the first service anniversary, the four-millionth rider climbed aboard one of the Hawker Siddeley Canada cars. That in itself should indicate one form of success for the operation, and GO people are indeed convinced that they've proved that commuters can be enticed out of their automobiles and into railroad cars.

More time is needed

Three other basic conclusions, however, are yet to be reached. GO Transit wants to know about land-use impact, development along the right-of-way. It wants to know about economics, the extent of the subsidy that will be needed as an ongoing thing. Finally, it wants to know the effect of rail transit on the highway system. None of these questions can be answered fully on the basis of just one year's trial.

The land-use factor, GO officials feel, may be the hardest to evaluate, and two or three years may pass before assessments can be made with any degree of certainty. Already, though, surveys point to GO as a significant element in individuals' choices of residential locations. And at a couple of GO station-points, there has been noticeable activity in new-apartment development. To Torontoans, this should come as no surprise: The Yonge Street subway, years ago, seemed to prove that commercial and residential development follows the good-transportation lines.

Economics of GO Transit may be measurable sooner—W. T. Howard, GO manager, thinks his organization will have good estimates available before the end of 1968. At the moment, the original estimate—about $2 million annually—still looks like a reasonable figure. But GO went through a lengthy shakedown period in 1967, and didn't reach its full 51-trains-per-weekday operation until last September.

In addition, GO must yet see at what figure revenues may level off. It must give close study to equipment-maintenance costs in and after the first year. Somewhere, consideration has to be given to the fact that planning staffs haven't been cut back after the implementation period. Now, certain property improvements are being made—platforms are being lengthened to accommodate 10-car trains. Finally, GO has yet to experiment with promotion of off-peak traffic—in part because nine self-propelled cars, acquired mainly for off-peak duty, have been out of service for modifications in engine exhaust systems designed to make the main and auxiliary power plants work better together.

● **Highways and rails.** Meantime, GO—which is administered by the Ontario Department of Highways—will also be looking closely at the commuting-by-auto situation. A benchmark count from 1967 is available, and by late summer this year figures may be available for a 1967-68 comparison.

Toronto, as it happens, has not gone expressway-crazy. There is a good express highway into the central city from the west, which parallels GO Transit trackage. But, over the years, planners have moved cautiously in their designs for concrete. They have been conscious of both an economic and an emotional resistance. And the Toronto Transit Commission has done much to keep highway enthusiasm down, simply by providing an efficient surface and rapid-transit operation and constantly improving on it.

In any event, a year of GO Transit has at least proved that Toronto's commuters will ride the rails: All original traffic estimates erred on the low side, and GO rather quickly found itself operating up to rush-hour capacity.

GO Manager Bill Howard thinks there can be a slight increase, perhaps

to 20,000 weekday trips. But this would come through use of additional equipment, ordered for delivery beginning in August; and through an increase in off-peak riding, which GO may soon begin to promote.

Through April, at the end of eight months' full operation, GO was averaging 15,300 riders daily. But 10 cars is a maximum-length train, and GO can't do better than 20-minute headways because of the nature and capacity of the piece of railroad it uses—CN's lakeshore line.

(GO Transit operates as an arm of government, owning or leasing equipment, stations and parking lots. Actual operation is performed by CN under contract. In effect, the railroad bills GO for applicable expenses plus a small management fee; revenues are turned over to GO.)

● **Votes of confidence.** What does Toronto think of GO? The transit organization has taken a couple of rider-surveys—and adverse comment is a rarity. For the most part, "criticism" has consisted of requests for more service.

GO has found, for instance, that 46% of its riders formerly commuted by automobile. Significantly, GO has also discovered that about 22% of its present patrons were influenced in their choice of residence location by the existence of the rail service.

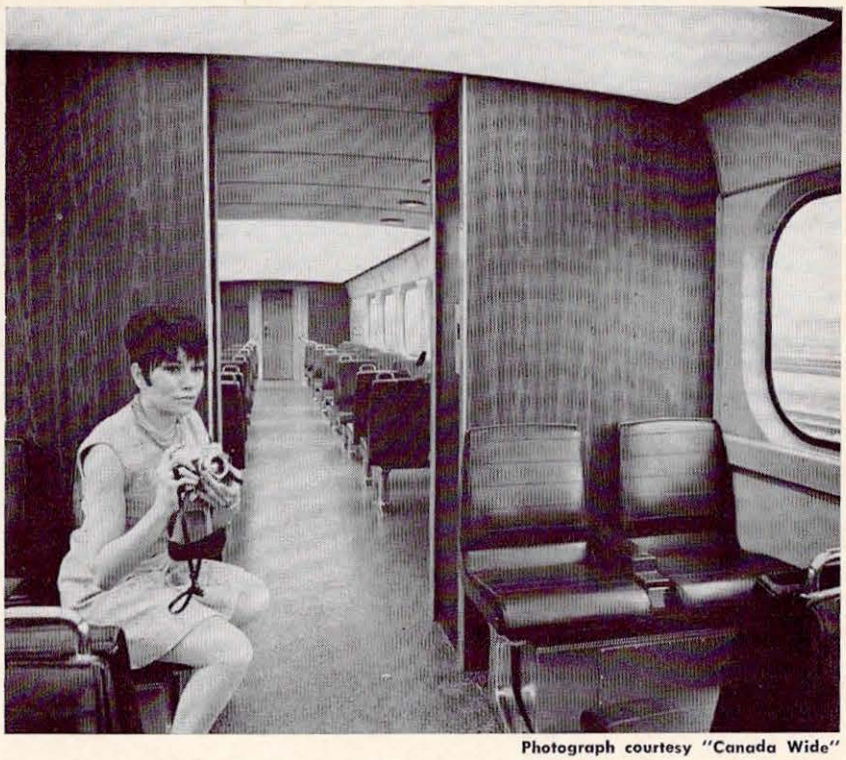
To a great extent, this acceptance reflects the kind of planning that went into GO Transit from the beginning. Toronto was not a city with a rail-commuting history—where the twice-a-day riders commuted and complained, commuted and complained, but commuted nevertheless. Toronto was a metropolis oriented to the automobile—and GO Transit people knew their appeal had to be a drastic one.

As a result, GO riders enjoy:

—Free parking at GO Transit lots, plus kiss 'n' ride driveway loops for commuters who are chauffeured to the station by the wife.

—Equipment designed with fast and reliable service and comfort in mind. Wide door openings were provided, to speed loading and unloading operations at GO's low-level-platform stations.

—Interior design that swings. This project was placed in the hands of the assistant interior designer in CN's architectural department, Susan McPhee. She came up with what may be the railroad industry's first bucket-seat commuter cars, a design which somehow seems to make ex-auto commuters still feel that they're in the drivers seat.



Photograph courtesy "Canada Wide"

A little lady with big designs

Woman's place, so the old story goes, is in the home. But you could probably get an argument on that, from the contented commuters riding Toronto's GO Transit trains. To them, woman's place is right where she is—if the woman is Susan McPhee (above), assistant interior designer in Canadian National's architectural department. Miss McPhee has done a number of design jobs. One of them was on GO Transit. With the knowledge that commuters would have to be attracted from the outside—from the private automobile—she designed GO cars like somebody in Detroit would design sports cars. She did what has been described as a tremendous design. Automobile commuters are going by rail. All that's missing is the gearshift—and the traffic.

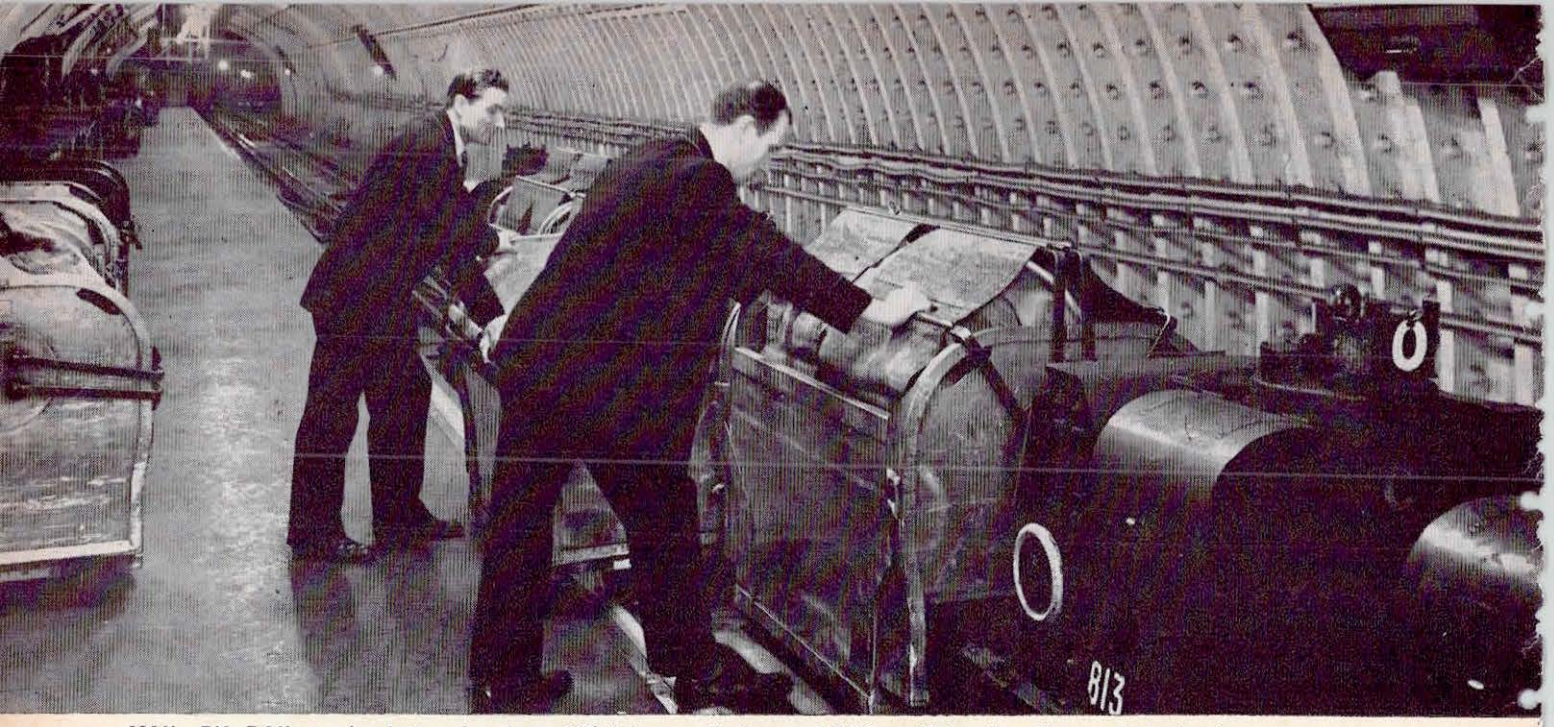
—Scheduling aimed at minimizing, insofar as possible, the standee problem.

It's worth noting that on-time performance is a matter of rather fierce pride, both for GO managers and for the CN crews who operate the trains. As CN's superintendent of commuter services, Wilfred Sergeant, points out, "GO in its first year covered 625,725 train miles on 15,935 scheduled runs—and 96% of those trains ran on time."

● **Coming up next:** Will the GO Transit idea be expanded? That's hard to say. GO's request file is getting thicker, and the calls for new rail service have come from as far out as 50 miles. There are perhaps a half-dozen other rail lines radiating from the central city over which a GO-type operation might be run. But, by the time equipment and track and signaling improvements are figured in, GO Transit startup doesn't come cheap. Any decisions on expansion will be governmental decisions—first to GO or no-GO, and then to figure priorities.

Highway Minister George E. Gomme notes that the year has provided valuable data to aid in the assessing of the role of commuter services in a balanced transportation system. But, he emphasizes, data must still be collected from another four months of operation, to round out a one-year study of full GO service—and only then can researchers begin to prepare evaluation reports.

So, for the time being, GO will be working with what it has—carrying its load of up to 20,000 riders a day. And the next sound Toronto will hear will be the sound of subway construction—as TTC stays on the move ■



MAIL BY RAIL works below London. Officials say it keeps 1,700 mail trucks off crowded streets.

Can transit move the mail?

U.S. operators looking for a way out of the peak-and-valley traffic cycle are interested.

Are transit lines adapted for moving mail or other freight? The idea has been tried out successfully in Europe, and it's getting looked at by several U. S. systems.

There are two reasons why the concept is attractive. It's notorious that the big delays in moving mail are in local distribution, not actual movement. From the Post Office's point of view, moving mail off crowded streets and onto rapid transit lines might help to ease distribution bottlenecks.

From the transit operator's point of view, running other types of traffic besides passengers means a new source of revenue and a way of breaking out of the peaks-and-valleys traffic cycle that keeps utilization of lines low.

London has a special underground railway that moves mail and nothing else. Its operation has been so successful, that it is being expanded and modernized. Other European cities have expressed interest in utilizing existing transit systems for moving mail.

In this country, at least three major systems are examining the idea, although in each case local officials stress that studies are at a very early stage.

In Philadelphia, only a small amount of trackage needs to be built and electrified to link the city's main airport by rail with the Penn Central's 30th St. station and downtown suburban station.

As earlier reported (RA, May 6, p. 20), plans are going ahead for an airport-access service. But the 30th St. station is also the nerve center of postal distribution in Philadelphia. It was thought that there is good potential for using baggage cars to move mail direct from 30th St. to the airport and back.

As it is, passenger cars in this service are likely to be equipped with luggage racks or some form of hamper to carry passenger baggage.

● **M-u mail cars.** A concept now being discussed is to have motorized baggage cars run in multiple-unit sets on the same route. A typical car of this sort could carry 4000 cu-ft of mail —far more than a truck could. If the cars operated m-u style, the capacity to move mail quickly and in great quantities is tremendous.

Another possibility mentioned for the same airport route is to run containerized freight to the "Cargo City" located to one side of the airport terminal.

This is not considered quite so promising as the mail idea at this stage, because there is no big staging point for containers in or near downtown that is comparable to the PO's at 30th St. But it may hold potential for a later date.

In Cleveland, the new airport extension opening later this year may be a "natural" for routing air mail into and out of the city. Cleveland Transit System officials have been discussing an idea for palletized cars to move the mail. They have also discussed a containerized service out to the airport for other types of cargo.

● **New York needs revenue.** At the New York City Transit Authority, the search for additional revenue has turned up ideas for many other things besides carrying mail—for example, use of outside lines as decks for parking lots, use of tunnels for TV coaxial cables, and leasing of air rights over yards. The latter idea already bore fruit in the form of a school development which is going up over the 148th St. and Lenox Ave. station.

The mail-carrying idea is considered promising, and for several months, NYCTA and city officials have been awaiting the results of a study by the Post Office Department.

The PO's position is by no means clear. In some cities, local transit men say PO officials sounded interested; in others, they say the opposite. But it is obvious that a number of questions remain to be cleared up.

For one thing, there is the problem of access. On one previous occasion when a transit official broached the subject, the PO is understood to have insisted on uninterrupted service as a prerequisite; but what transit operator would interrupt rush-hour service to run mail trains?

For another, there is the question of labor. The PO generally establishes

rules that up to a certain distance from the city center all mail will be distributed by truck. A shift of that traffic to transit might menace some PO employee's jobs and be politically unpalatable. For that matter, it is not yet clear whether or not carrying mail might subject the transit operator to ICC regulations and railroad crew laws.

Nevertheless, transit operators want to know the answers to these questions and in the meantime, they have the example of London, where a mail-carrying operation is both successful and of long standing.

The Post Office Railway—not connected with London Transport—runs 6.5 miles below the central part of the capital, carrying mail between Paddington Station on the west, Whitechapel on the east, and six sorting points in between.

Automatically controlled driverless trains carry 41,000 bags of mail daily on this route, saving 18 minutes, terminal to terminal, compared to road service. It was estimated that without the railway, 1700 more mail trucks would have to be used on the streets.

For 22 hours a day, six days a week, the trains travel at speeds up to 35 mph on 2-ft-gauge tracks in tubes 68 ft below the surface. The trains are controlled from switch cabins at five stations.

At the two terminals and the intermediate stops, labelled bags drop to platform level by gravity chutes, one for eastbound, one for westbound traffic. There they are sorted by destination into pallets, which are wheeled on to the trains. At their destination, the pallets are unloaded and wheeled onto elevators which bring them to the surface. An exception is at stations with conveyor belts. There, the pallets are transferred to tippers which discharge the mail bags on to automatic conveyors and then go by elevator to the sorting point at the surface.

● **A 60-car fleet.** There are 58 cars used in this service, another two cars are used for passengers—inspecting engineers and other officials. Three battery powered driver-controlled locomotives are used to haul the passenger cars, the maintenance train, or in emergency, the regular mail train. But operating delays don't account for more than 10 hours annually.

At station approaches, the main double-track tunnels divide into two seven-ft single-track tunnels. Some stations have two tracks to each platform and also switching sidings, so that maintenance trains can go through without disrupting service. With 4 decades of successful operation behind them, the men who run the Post Office Railway are now looking at new car prototypes, to make it an even better operation. ■

LUTHER MILLER

AS THE EDITOR SEES IT

FANS vs BUFFS—Nearly all railfans are passenger-train buffs. But not all train buffs are railfans. This distinction is not always appreciated, and there is much resulting confusion. The fact is, a lot of honest-to-God railfans are as sore at the trains-at-any-price buffs as are the railroads themselves.

TVRM'S ANTI-ANTIQUARIANS—A clear and refreshing statement on this subject came recently from the Tennessee Valley Railroad Museum, which was founded in 1961 and is now one of our flourishing railfan organizations. "Our original policy was and continues to be positive in our relationship with railroads and other bodies and not as many antiquarian groups who mourn every passing phase of history," says TVRM's house organ, Smoke & Cinders. "To argue for the continuation of passenger trains when they have no passengers makes as much sense as the continued argument of steam versus diesel."

WHAT DO BUFFS REALLY WANT?—Smoke & Cinders questions the dedication of some extremists to the whole idea of privately-operated railroads: "Many of the more vociferous proponents such as the author of 'To Hell in a Daycoach' issue polemics which on sober reflection are nothing more than a call for nationalization. [But] a nationalized railway between Chattanooga and Cincinnati will carry no more passengers than a tax-paying corporation such as the Southern Railway . . . ."

THE RAILFAN'S RESPONSIBILITY—Smoke & Cinders offers a statement-of-purpose which we would like to see written into the charter of every railfan group: "We are well aware of many of the problems confronting the railroad industry and we try to make ourselves helpful to that industry wherever possible. . . . It is unrealistic (and nonsense) to assert that the railroads are not trying to keep passenger business. . . . It is the responsibility of every member of our organization to be well informed not only on the historic aspects of railroading, but also of the factors which shape the present and future destiny of the railroad industry as a whole."

SAVE US FROM EMBALMERS—For our part, we suggest that it is the responsibility of railroads to recognize that groups like this one do exist, and to be responsive to their efforts to participate in industry affairs. Then all of us can work together to stave off the real threat to tomorrow's passenger train—which is the kind of embalming party that so many of the non-railfan buffs seem intent upon.

WALTER TAFT

WATCHING WASHINGTON

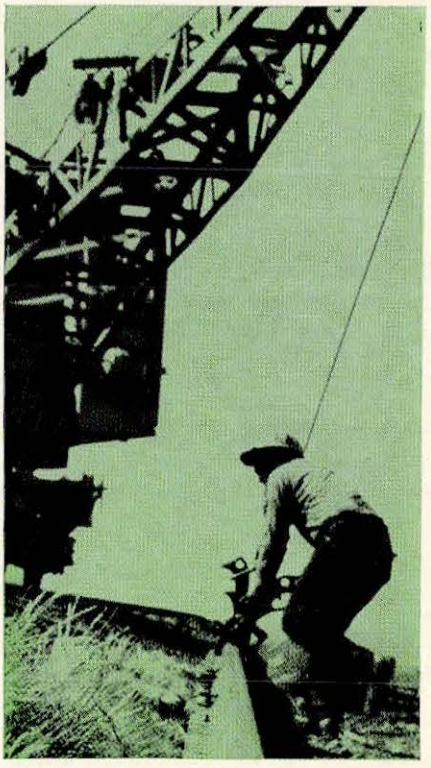
COST CASE SURFACING AGAIN—The ICC's six-year-old case involving cost evidence in competitive-rate cases is scheduled to surface again this week. It comes up for oral argument before the Commission on June 5. The case is No. 34013, a proceeding instituted by the Commission in 1962 to develop rules to govern the assembling and presentation of cost evidence. The National Industrial Traffic League has called it a proceeding "of tremendous scope, the outcome of which will affect all segments of the economy concerned with surface transportation."

THE PROPOSAL—The original notice contemplated that cost formulas developed by the Commission's staff, and some studies derived therefrom, could be given status in competitive-rate cases as *prima facie* proof of what they purport to establish. The proposal was subsequently narrowed to contemplate giving such status only to the cost formulas.

COST FORMULAS INVOLVED—That leaves six formulas involved—Rail Form A and Rail Terminal Form F, Highway Forms A, B and F, and Barge Form C. The Commission's objective is to improve the quality and reduce the quantity of cost evidence, meanwhile mitigating controversy about the admissibility of such evidence.

RAILROAD POSITION—The railroads oppose this approach as a threat to the freedom Commission-regulated carriers now have to tailor cost evidence to differing operating and service conditions. A like position is taken by the NIT League. And Examiner J. S. Kaplan's recommended report of Oct. 10, 1966, supports those positions. However, the recommended report does advise the Commission to adhere to its general policy of using fully-distributed costs to identify the low-cost carrier in competitive-rate cases involving different modes of transportation.

FULL COSTS vs OUT-OF-POCKET—That Kaplan recommendation was a setback for the railroads. Their position is that fully-distributed costs should have no role in competitive-rate cases, the only proper test being whether proposed rates exceed out-of-pocket costs and are compensatory in the sense that they improve net earnings. This issue is expected to be to the fore in the June 5 presentations, although discussion of it is not called for specifically in questions which comprise the Commission's agenda for the argument.



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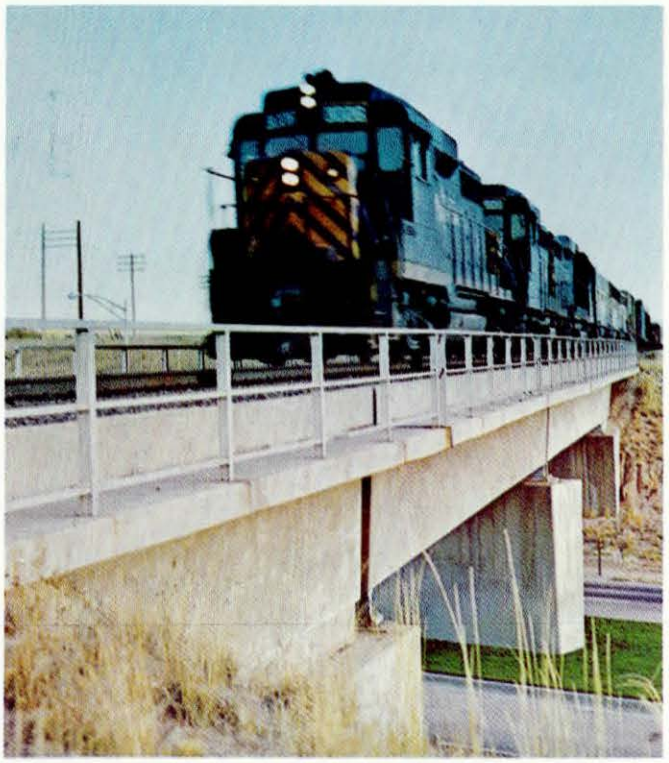

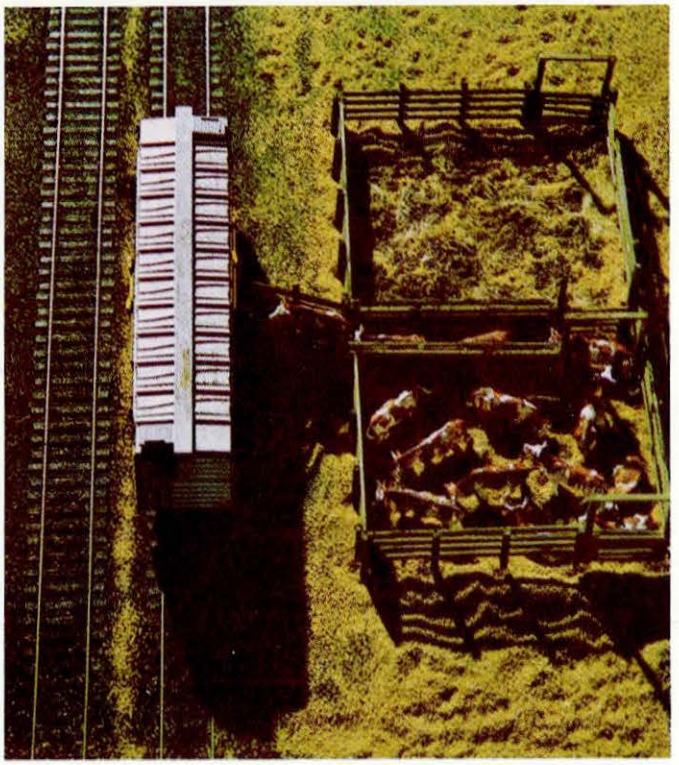

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Roll freight after freight across . . . this concrete bridge will take it. That's because it's prestressed with CF&I Strand. Prestressed concrete bridges go up faster to meet the earliest construction deadlines, and have proven durability. Let your profits ride on a strong, modern structure . . . prestressed concrete made with CF&I prestressing wire and strand.

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with CF&I Rail Products & Accessories

Load 'em up 'til there's no room left. Then, ride 'em out of town on a rail. Better make sure the rails are tough enough to take it. CF&I Hi-Si rails are! That's because they're high in silicon content . . . increasing rail life . . . lowering maintenance . . . securing greater rail strength. CF&I makes a wide range of other rails and accessories. All are rugged steel products. Working toward a greater railroading future, CF&I keeps in touch and in tune with the needs of the industry . . . a part of CF&I "Service in Steel."

SERVICE IN STEEL...
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Other CF&I Steel products for the railroad industry include: Barbed Wire • Woven Wire Fence • Fence Posts • Fence Stays • Nails and Staples • Cold Rolled Steel • Welded Wire Fabric • Slings • Tubing • Cutting Edges • Galvanized Steel Strand • Made in the U.S.A. by American steelworkers. CF&I Steel Corporation, Denver, Colo.

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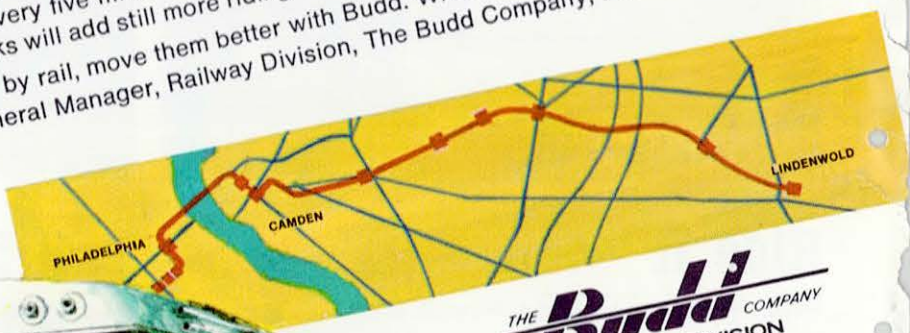
America's first high-speed, semi-automated commuter train.

Starting in 1969, commuters between southern New Jersey and Philadelphia will by-pass the rush-hour traffic—aboard semi-automated, high-speed cars designed and built by Budd for the Delaware River Port Authority's all-new transit system.

Traveling at 75 mph, these new cars will be automatically controlled—to maintain the speed limits, keep safe distances between trains, and get proper routing. A push-button-like panel (shown above) for train-operator control and a TV-monitoring system for every station further guarantee a smooth-running line.

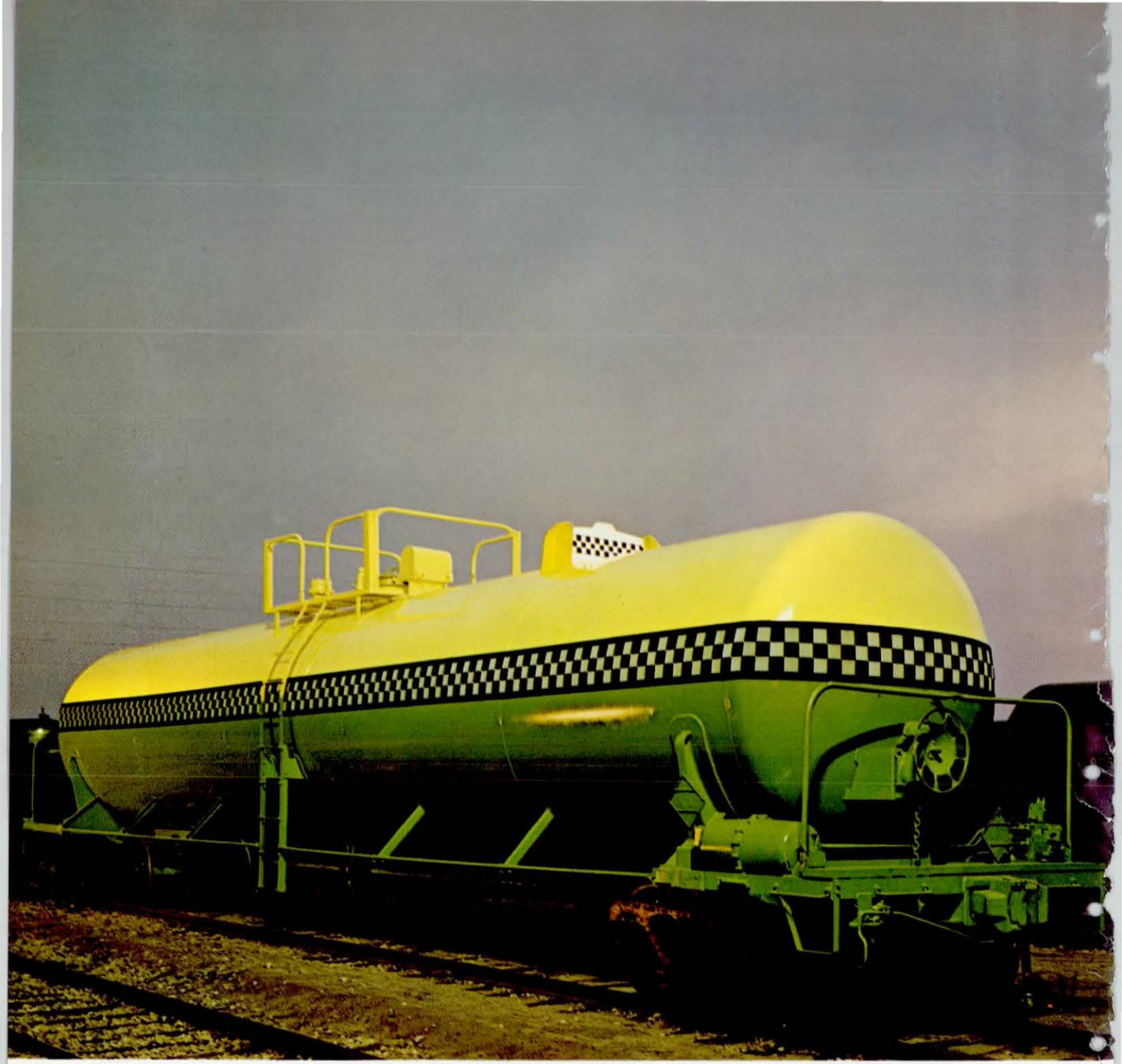
With today's fastest acceleration, the new DRPA cars will offer the last word in transit economies, too; the first word in commuter comforts. 80 passengers per car will sit in wider-than-normal seats, have fresh air changes every five minutes, and enjoy non-glaring reading light. Budd air-cushioned trucks will add still more riding comfort.

If you're moving people by rail, move them better with Budd. Write James A. Miller, Vice President and General Manager, Railway Division, The Budd Company, Phila., Pa. 19115.



THE Budd COMPANY
RAILWAY DIVISION

MEMBER RPI RAILWAY PROGRESS INSTITUTE



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And, let GATX know what kind of terminal facilities you will require.

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We keep mileage and tax records.

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If you want more tank cars or terminal facilities than you normally need, just hail GATX (even on a rainy day).

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SIX MOTOR 2,250-HP LOCOMOTIVE has the same underframe and carbody as the high-horsepower U33 GE unit.

GE offers medium power diesel units

Upper Michigan ore hauler has gotten six-motor version; the D&H will be getting the four-motor model later this summer.

Two 2,250-horsepower diesel electrics recently delivered to the Lake Superior & Ishpeming represent the introduction of a new line of locomotives by General Electric. While most recent emphasis has been on motive power with higher individual unit ratings, GE has chosen to produce a medium-power locomotive specifically "to meet the requirements of contemporary freight and switching service where high tractive effort, rather than maximum horsepower, is the criterion."

Each of the two U23C locomotives for LS&I is powered by a 12-cylinder turbo-charged engine of the same design as the 16-cylinder engine which has powered previous U-series domestic road units built by GE. On the 103-mile road, the six-axle, six-motor units are primarily hauling pelletized iron ore from mines on the Marquette iron range to a dock at Marquette, Mich.

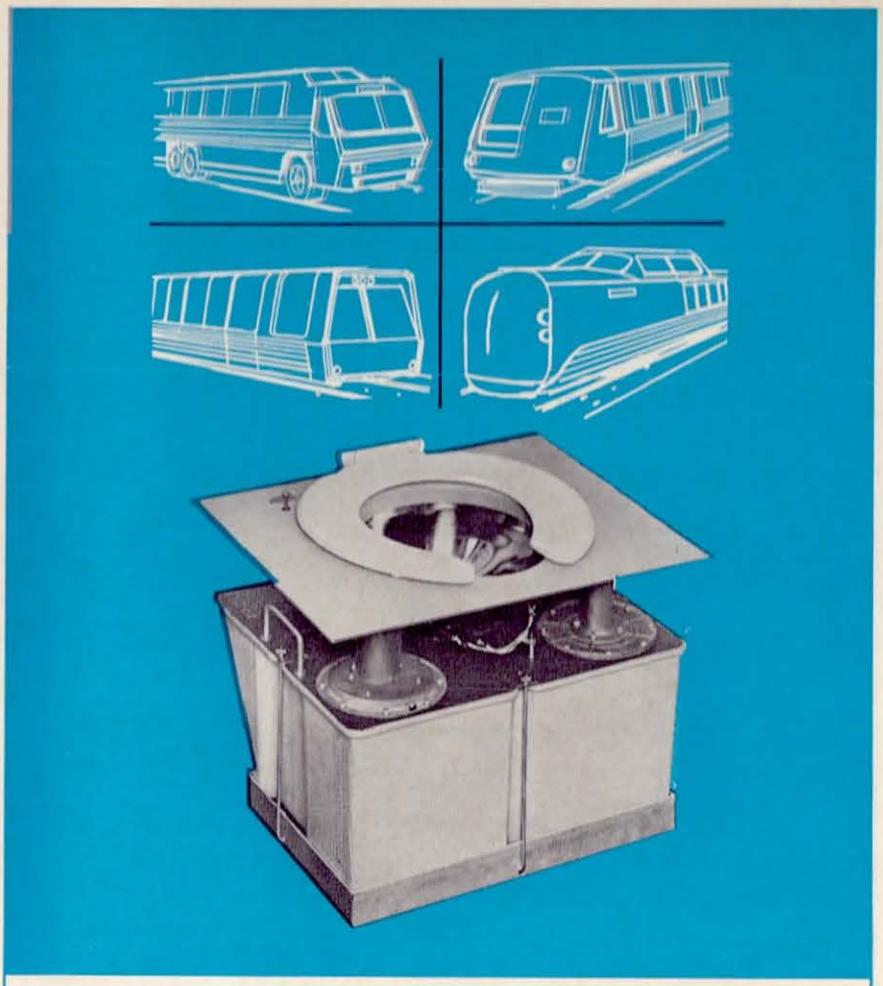
In addition to the six-motor version, there will be a four-motor, four-axle U23B locomotive, 16 of which have been ordered recently by Delaware & Hudson for late summer delivery (RA, April 1/8, p. 45). D&H expects to retire the remainder of its first-generation diesels with the new GE power.

● **Broadened spectrum.** Commenting on delivery of the U23C units, O. F. Vea, general manager of GE's Locomotive and Parts Department, said "the U23C represents another significant step GE has taken in its efforts to better serve the nation's railroads." From the "highest power-per-axle locomotive now available—the U33B—to the latest addition," said Vea, "GE can satisfy the needs of any U.S. railroad."

The 12-cylinder FDL-12 four-cycle engine has parts fully interchangeable with its 16-cylinder counterpart. The 16-cylinder diesel has been rated successively at 2,400, 2,500, 2,800, 3,000 and, now, 3,300 horsepower. While the higher-power versions of this larger engine are used with an alternator/rectifier type of electric transmission, the smaller 2,250-hp engine will be coupled with a conventional direct-current main generator. The GE 752 d-c traction motor is used on all these locomotives.

The U23B and U23C locomotives have the same underframes and carbody structures as the U33B and U33C, respectively. The four-axle U23B is 60 feet 2 inches over coupler pulling faces; the six-axle U23C is 67 feet 3 inches. The standard 1,700-gallon fuel tank of the U23B may be modified to hold an additional 1,550 gallons; the U23C has a basic 3,000-gallon tank which may be increased to 4,000 gallons. Available gear ratios for both models permit top speeds of 70, 75 and 79 miles per hour.

The basic U23B weighs 242,000 pounds; the U23C, 348,000 pounds. Both weights are increased with modifications, such as dynamic brakes. Wheel-slip control is based on comparison of the output signals of alternators mounted on each axle with a power tie circuit designed to minimize the incidence of slippage. ■



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John C. Gardiner
CN

R. L. Coulter
Frisco

PEOPLE

BELT RAILWAY OF CHICAGO.—**V. L. Smith,** superintendent motive power, named superintendent motive power-assistant purchasing agent.

BIRMINGHAM SOUTHERN.—**Challas R. Blue,** assistant secretary, Fairfield, Ala., elected secretary and treasurer.

CANADIAN NATIONAL.—**John C. Gardiner,** general manager, pricing and development division, Montreal, promoted to assistant vice president—freight sales.

J. S. Jones, work study officer, appointed regional projects co-ordinator, St. Lawrence Region.

B. E. Newell, co-ordinator financial planning and analysis, appointed chief accountant, Great Lakes Region, Toronto, succeeding **D. F. Wells,** promoted.

CHESAPEAKE & OHIO—BALTIMORE & OHIO.—**Edgar F. Baughan,** assistant tariff publishing officer, Baltimore, promoted to tariff publishing officer, succeeding **D. H. Daugherty,** who retired April 30.

A. M. Schuh, superintendent of shops, appointed assistant chief mechanical officer—locomotive, with headquarters as before at Huntington, W. Va., succeeding **C. D. Allen,** retired. **D. W. Walker** succeeds Mr. Schuh as superintendent of shops. **E. F. Stark** named senior engineer mechanical facilities.

A. L. Maynard, engineer bridges and buildings, Huntington, resigned. **N. W. Hutchison,** equipment utilization engineer, Huntington, retired.

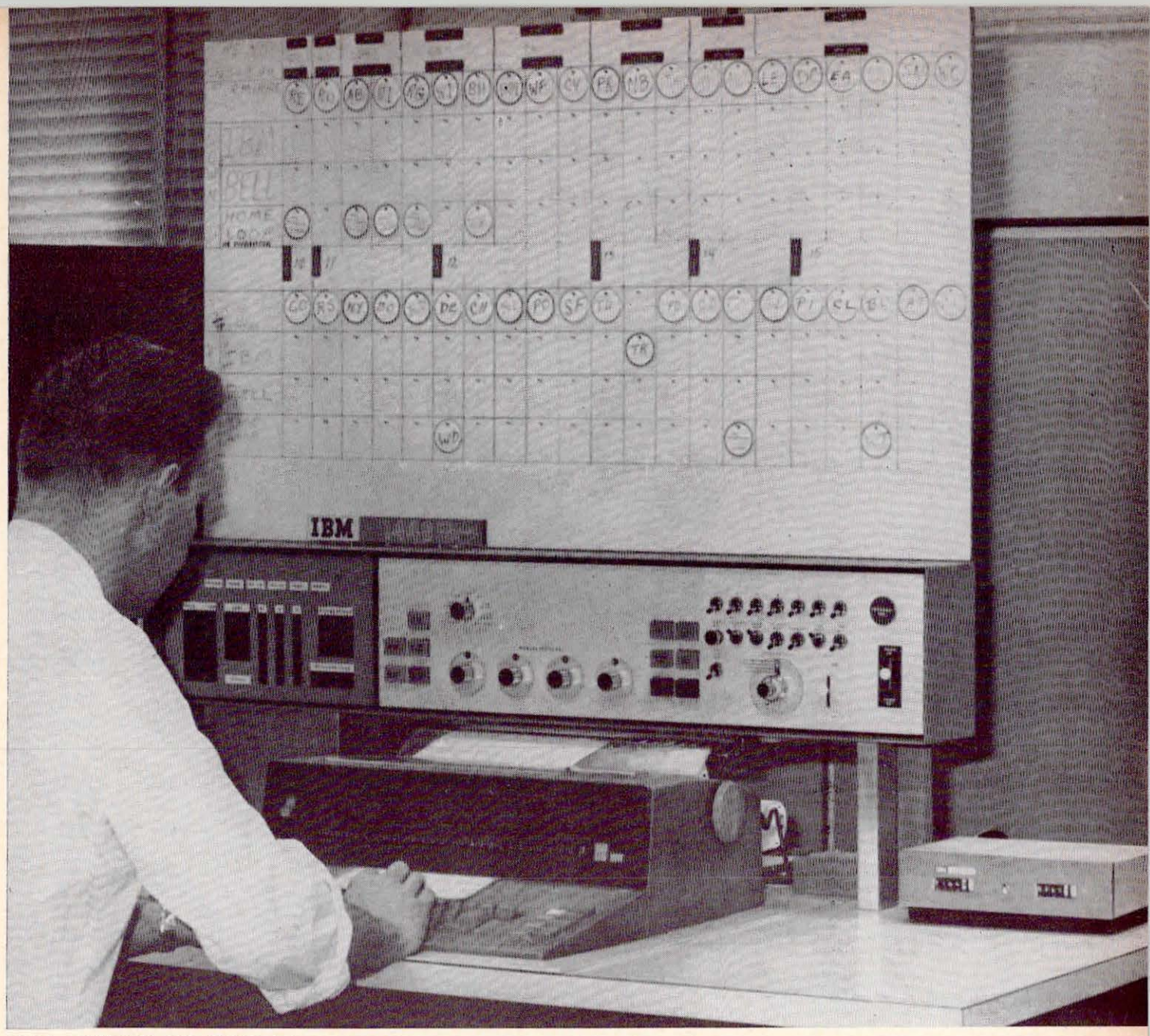
At Baltimore—**E. L. Willis,** assistant trainmaster, B&O, appointed terminal trainmaster, succeeding **M. E. Walker.** Mr. Walker succeeds **C. G. Gray,** appointed supervisor transportation, replacing **A. A. Torney,** named assistant superintendent—transportation schedules and classifications, C&O-B&O.

A. L. Payne named supervisor passenger train service, Washington, D.C.

A. B. Cary, assistant superintendent, Clifton Forge-Hinton Division, C&O, Hinton, W. Va., promoted to superintendent, Richmond Division, Richmond, Va., succeeding **W. S. Butler,** retired. **A. M. Helmintoller,** road foreman of engine-assistant trainmaster, Clifton Forge, promoted to trainmaster there, succeeding **C. H. Booker,** who replaces Mr. Cary.

R. B. Woodward, Jr., assistant general agent, C&O, Newport News, Va., promoted to general agent there, succeeding **A. S. Tatum.**

FRISCO.—**R. L. Coulter,** assistant superintendent car department, appointed superintendent car department, to succeed the late **W. C. Reddick.**



FAST, ACCURATE CAR REPORTING on the Reading is sparked by two IBM 1440 computers, one of which is shown above.

Reading saves via computers

Quality-control system lowers the per-diem debit and reduces freight car turn-around time.

Reading is proving that a small railroad can use big-road quality-control techniques as effectively as the big railroads can—perhaps even more so.

With a computer watching where its cars go at all times, Reading in 1967 cut per diem costs by 40% and raised on-time performance to 88%. So far this year, there is an equally good report: The railroad's first-quarter per-diem debit was $530,000, compared with $1.28 million a year ago. And that represents a drop of 51%.

● **Big '68 target.** Reading has big goals for 1968. According to Franklin G. Fisher, assistant vice president-operations, there is an annual per-diem exchange of just over $25 million between Reading and other roads. In 1967, the company paid $13.4 million and collected $11.9 million. Fisher says his road expects to pay 10% less in 1968 and collect 10% more.

In addition to the first-quarter figure, Fisher has another reason for his optimism: Car turn-around time last year was cut from 5.73 days to 5.14 days. He says it will go down to five days in 1968.

● **Control through TRACE.** The quality control system that Reading uses is TRACE (Teleprocessing Random-Access Communications Exchange). It includes two IBM 1440 computers and 44 communications terminals in 21 yards, 15 traffic offices and seven administrative offices. It tells what yard a car is in, or was in, on a "nearly-current" basis, Fisher says. Also given

are the date and time a car enters and leaves a yard, what train it's part of, and whether it's empty or loaded.

Any Reading office in the U.S. can get immediate information on the freight-car situation. Terminals provide offices with direct, on-line access to the computer for updating or retrieving car records and for sending administrative messages.

● **Big-road benefits.** Fisher emphasizes that TRACE in less than a year showed that big-road improvements in car utilization and distribution could be gained by small roads, too. In fact, "our experience with the TRACE system has convinced us that it is both easier and more necessary for the small- and medium-sized roads to apply the new technology than it is for the larger roads. It is easier because we don't have as many cars, customers and personnel to deal with. This makes change-overs less complicated and less costly. It is more necessary because the only way we will be able to continue competing is by providing more effective service—something we can't do at a profit without the new technology," Fisher says.

Car turn-around time takes on extra importance on the Reading. The road's average haul is only 100 miles, and it originates only 30% of all the freight it carries. However, "ranking from eighth to tenth nationally in the number of interline loads handled, we receive over 2,000 loads a day from connecting lines. On this type of road, turn-around time is critical. Unless that time is tightly controlled, per-diem charges accumulate much faster than revenues. And the problem is made increasingly urgent by the growing use of specialized cars with higher per-diem rates," Fisher says.

Reading's so-called "big-terminal" operation makes car utilization and distribution a harder problem than for a larger railroad. Because the entire operation is compressed into a small area, car locations change faster and more often.

● **The management function.** For Reading management, TRACE performs two strategic functions. It provides daily reports showing the car situation as of the previous midnight, and it works as a base for drafting new management techniques.

TRACE delivers five reports each day on delays, two on car availability and location, three on special per-diem situations, and one on car movement that goes on Telex to shippers and private car-line owners.

The delay report covers cars held in a yard over one day, cars held in a shop over two days, cars held at destination over five days, cars on the road over three days (empty and loaded of all types), and empty cars in Reading yards over five days.

"SPECIALIZED CARS MAKE THE PROBLEM MORE URGENT"

FRANKLIN G. FISHER

"The report on yard delays is typical of the type of information the system provides us to deal with operational problems," Fisher notes. "The report shows the cars that have been in each yard for more than 24 hours in terms of type, per-diem, empty-or-loaded status, destination, and consignee of loaded cars, off-junction, train, date and time of arrival, and the total number of days the car has been in the yard. The report also shows the total number of delayed cars in each yard and the total number of days they represent. The other four delay reports provide much the same information with minor differences from one type of problem to another."

The per-diem reports (1) focus on cars with a high per-diem rating that have been on the road over three days; (2) show utilization of cars assigned to loading pools and tell how many loads, how many days for turn-around, how many Reading and foreign cars are in the pool, and how many cars are available at the pool loading point; and (3) outline terminal activity on a weekly basis of car-record openings and closings, with summaries and averages by activity—to pinpoint switching weaknesses.

● **Management techniques.** Those new management techniques? "TRACE is providing us with a new view of our operations. By analyzing the information it supplies, we are developing a better understanding of how various operations affect each other. The result is a more accurate and more detailed picture of how we actually operate and what functions determine our performance," Fisher says.

Reading already has learned enough about yard operations to draft a computer-based critical-path method (CPM) of scheduling and controlling yard operations. Also, later this year the railroad will expand its present computer setup by adding an IBM System 360/40 so that purchasing information can go on-line—and so that scheduling and control techniques now being drawn up can be implemented.

● **How it works.** The TRACE system sends a constant stream of messages through the Reading system. A message moves every time a train enters and leaves a yard. Bearing consist information for the reports, the message first goes to a communications computer in Philadelphia. There it's checked and stored and eventually forwarded to another yard. Yards receive consist information in typewritten and punch-card form. Cards are read back into the yard's computer terminal to produce a switch list. They also are used to send consists to other yards.

Doing the TRACE job are:

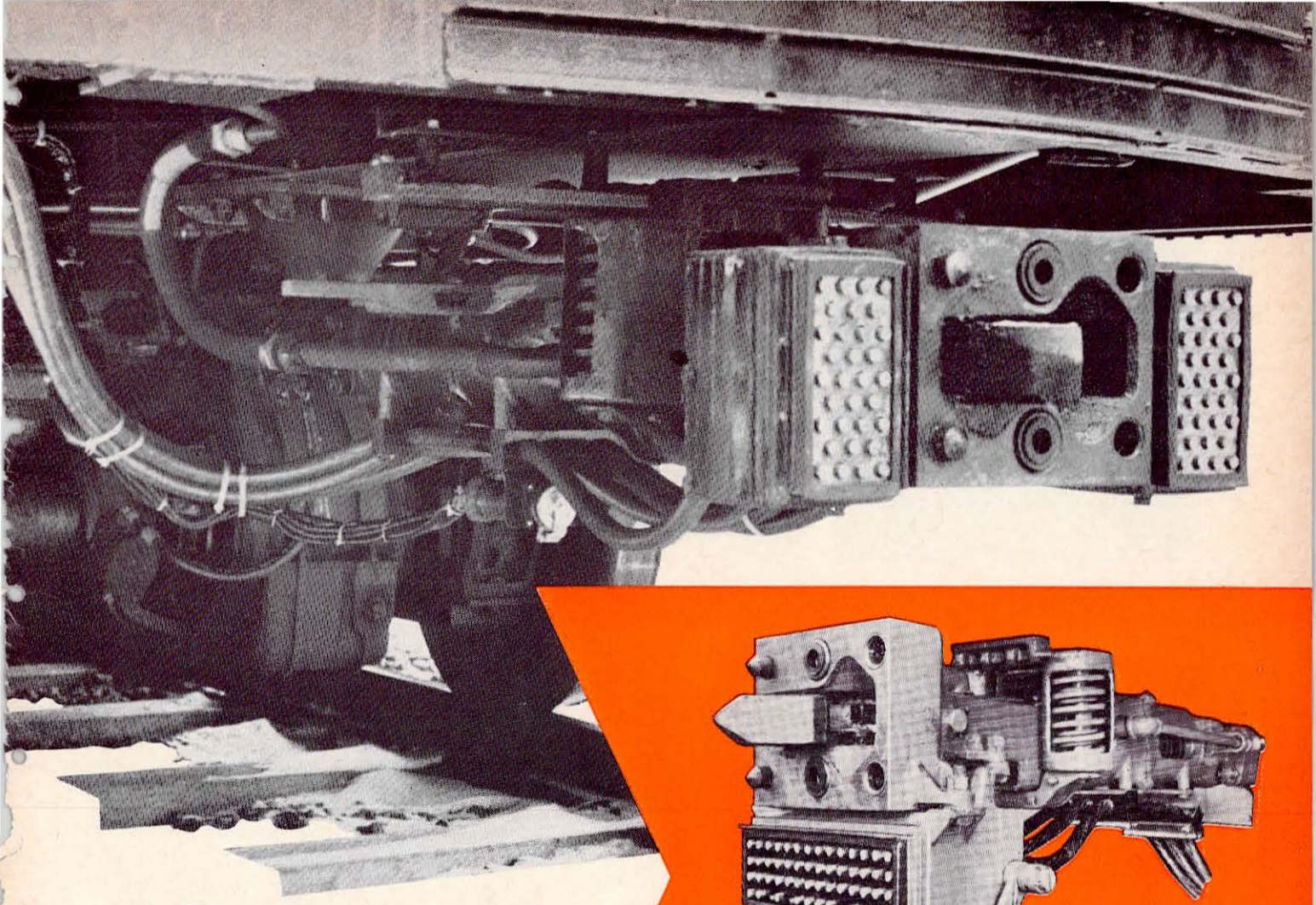
—One computer that works as the corporate communications center to handle consist reports, administrative messages and car-location inquiries.

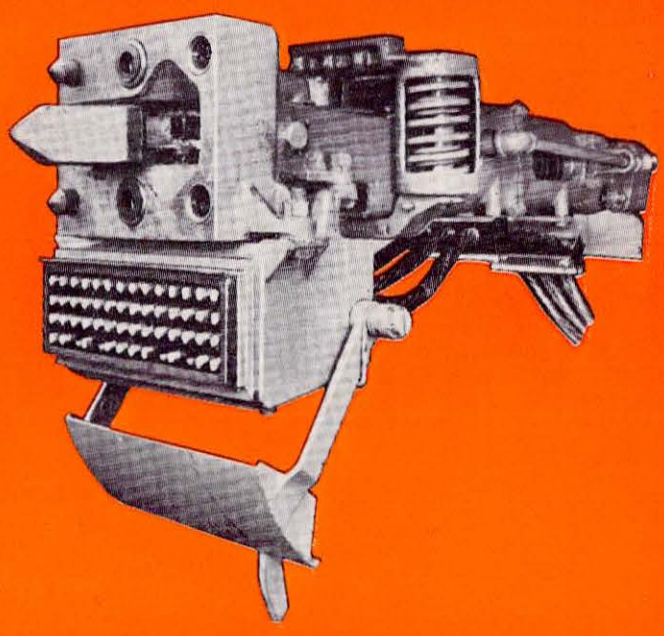
—One computer that works as a master car file to provide input for car-accounting processes, and to provide management with reports needed for operational control.

—Five 1311 disk memories capable of storing two million characters each, connected to the communications computer.

—Two disks connected to the second computer, one a 1311 to store the AAR equipment register file for checking validity of car initials and numbers and for giving per-diem-level information, and the other a 1310 capable of storing as many as 20 million characters for keeping the master car file.

—Two types of teleprocessing terminals on the Reading system for communications: 1050s in freight yards and 2740s in traffic and administrative offices. ■





60-year old coupler of the future

O-B hook-type couplers offer automatic operation, emergency release, and 62 years in-service experience

Recent interest in mass transportation and rail rapid transit has prompted many comments about the hook-type coupler as the coupler of the future. At Ohio Brass, its future started over 60 years ago.

In 1906, O-B supplied its first patented hook-type couplers. Since then, it's been a process of innovation and improvement. O-B introduced such hook-type coupler features as the tightlock mechanism, automatic operation, inclusion of pneumatic and electrical connectors on the mechanical coupler, a variety of self-centering devices, and a remote positioning mechanism. In 1953, O-B developed the first emergency-release mechanism – a patented O-B feature which effectively protects against derailment.

To make sure you get maximum benefit from the inherent performance advantages of hook-type couplers, ask your O-B district manager to forward your specifications to our coupler engineers. You'll get a modern coupler designed for your service requirements and incorporating the latest in coupler technology. Or, write us direct for fresh ideas on the 60-year-old coupler of the future. 663-T

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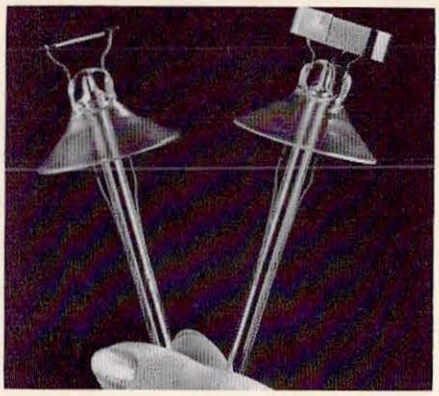
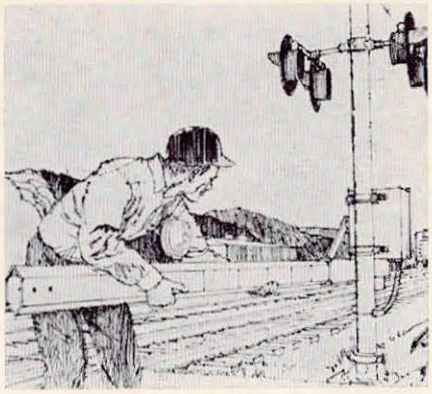
NEW PRODUCTS REPORT



Fluorescent lamps (RA-1)

Mainlighter (left) and Staybright (right) 40-watt lamps have an efficiency of 77 lumens per watt in Cool White (up from previous 74.5 level). The former has an initial lumen rating of 3120 and a life range from 15,000 at 3 hr per start to 30,000 hr if operated continuously. Initial lumens of the latter total 3200 which, together with better lumen maintenance, give it an advantage of about 5% in lumen hours during its first 12,000 hr of life. *General Electric Co.*



Crossing gate (RA-2)

A new lightweight crossing gate designed for mounting on existing masts is equipped with three weatherproof bidirectional warning lamps. It has maintenance-free 3-inch x 12-inch silver and red-orange retro-reflective strips to provide reflecting in all weather day or night. Low maintenance features include prelubricated and double sealed bearings, the use of shear-bolts for gate mountings and an all-aluminum exterior that requires no painting. *Signal & Communications Division, WABCO.*

Modified cell (RA-3)

Providing high capacity and flat line voltage on discharge in a compact package with minimum weight, a new primary cell has two positive elements so it can service heavier loads. Designated the ANRD, this cell is for use where surge currents are high and duty is intermittent. The ANRD is water-activated and is air-depolarized. Specifications include: nominal closed-circuit voltage, 1.25 volts; maximum continuous discharge at 70 deg. F, 1.00 ampere. *Carbone Corp.*

Shop power supplies (RA-4)

The constant potential silicon conversion units for d-c crane power supply and for general purpose shop power are completely static. They operate at 95-96% at full load and "exceed all minimum NEMA standards for 250-volt silicon rectifier power supplies." D-c output current ratings for 50, 75, 100, 105, 200, 250 and 300 kw standard power supplies are 250 volts 2-wire, or 125/250 volts 3-wire. Units of 400, 500, 750 and 1,000 kw have 2-wire 250-volt output as standard. *Harnischfeger Corp.*

Diesel fueling filter (RA-5)

The Model 4 filter for removing foreign matter from diesel fuel employs a replaceable paper element "100% effective in capturing all particles 5 microns and larger." Pleated design of the paper tubes is said to give them 20 times the filtering area of conventional filters and to greatly increase sludge-holding capacity. One unit will handle up to 100 gallons of fuel per minute. Additional units may be added to increase capacity. *Farr Co.*

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6/3/68

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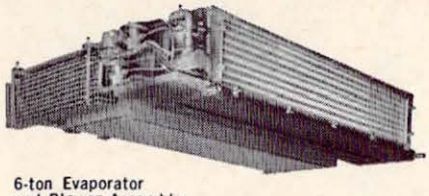
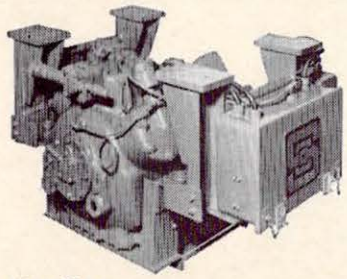
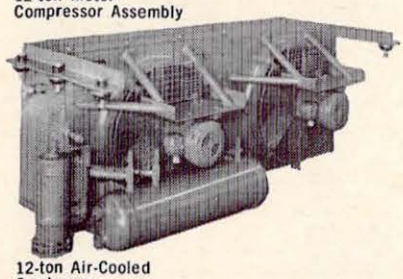


6-ton Evaporator and Blower Assembly, overhead unit



12-ton Motor-Compressor Assembly



12-ton Air-Cooled Condenser

These units are part of the **Safety** Equipment which provides the air-conditioning for cars on the new high-speed Northeast Corridor trains. A motor-compressor assembly, air-cooled condenser unit, and a motor starter and control panel are each separately mounted under each car. Two six-ton evaporator and blower assemblies are installed above the ceiling, one at each end of the car.

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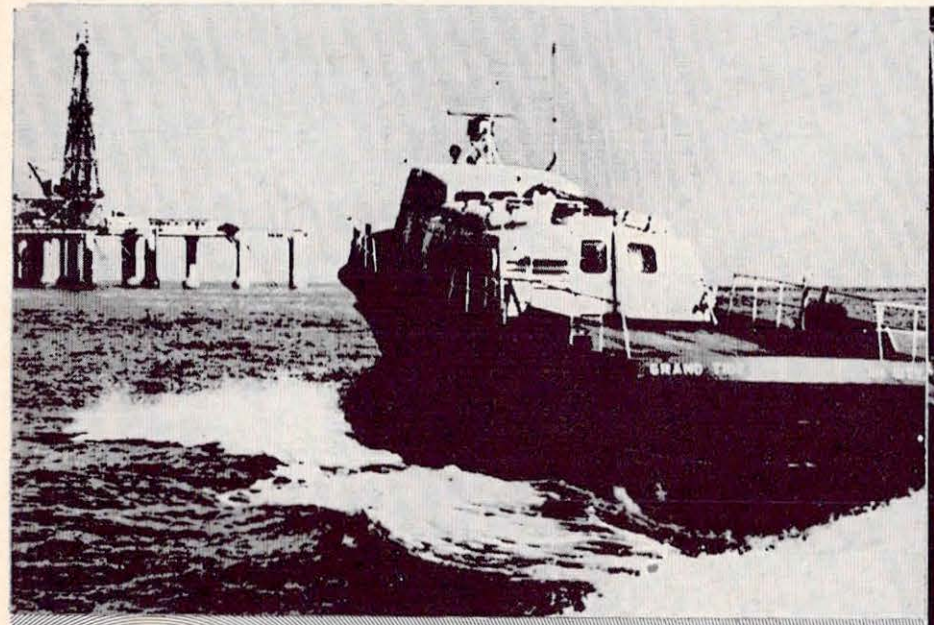
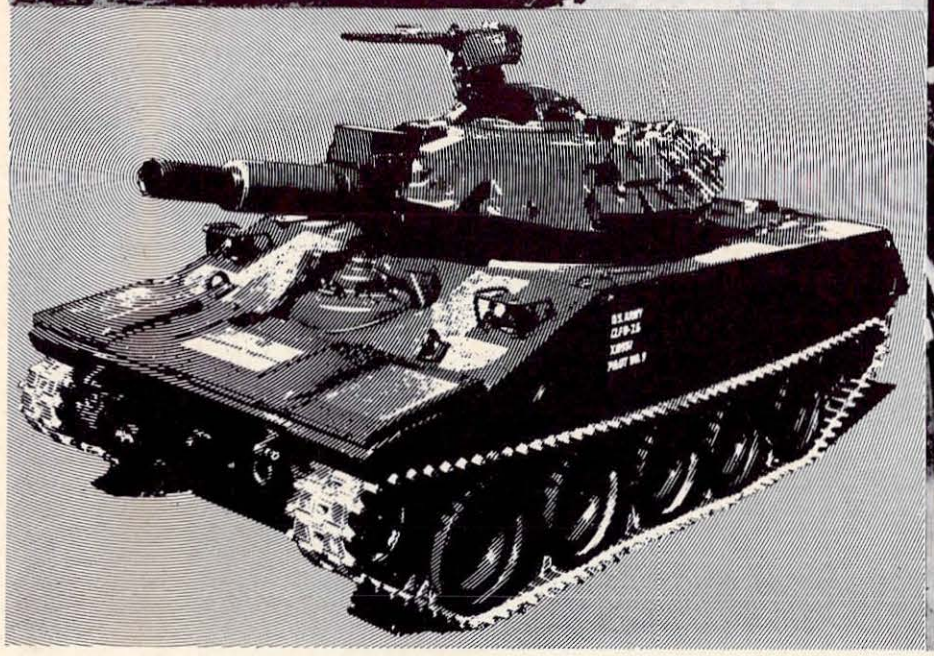
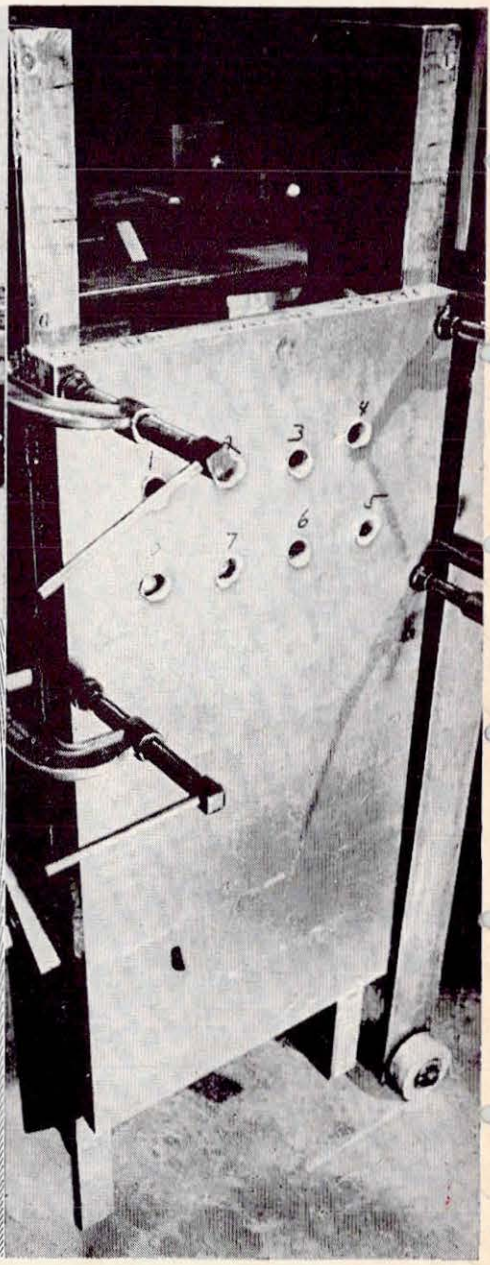
Aluminum is ruggedly durable. 1¼-in. aluminum armor plate stops 20mm shells! Aluminum armor plate gives protection equal to conventional armor, while making impressive savings in weight. The armed services have selected lightweight aluminum plate for the armor on several of their assault vehicles and personnel carriers. Alcoa Aluminum helps today's

Change for the better with Alcoa® Aluminum

ALCOA



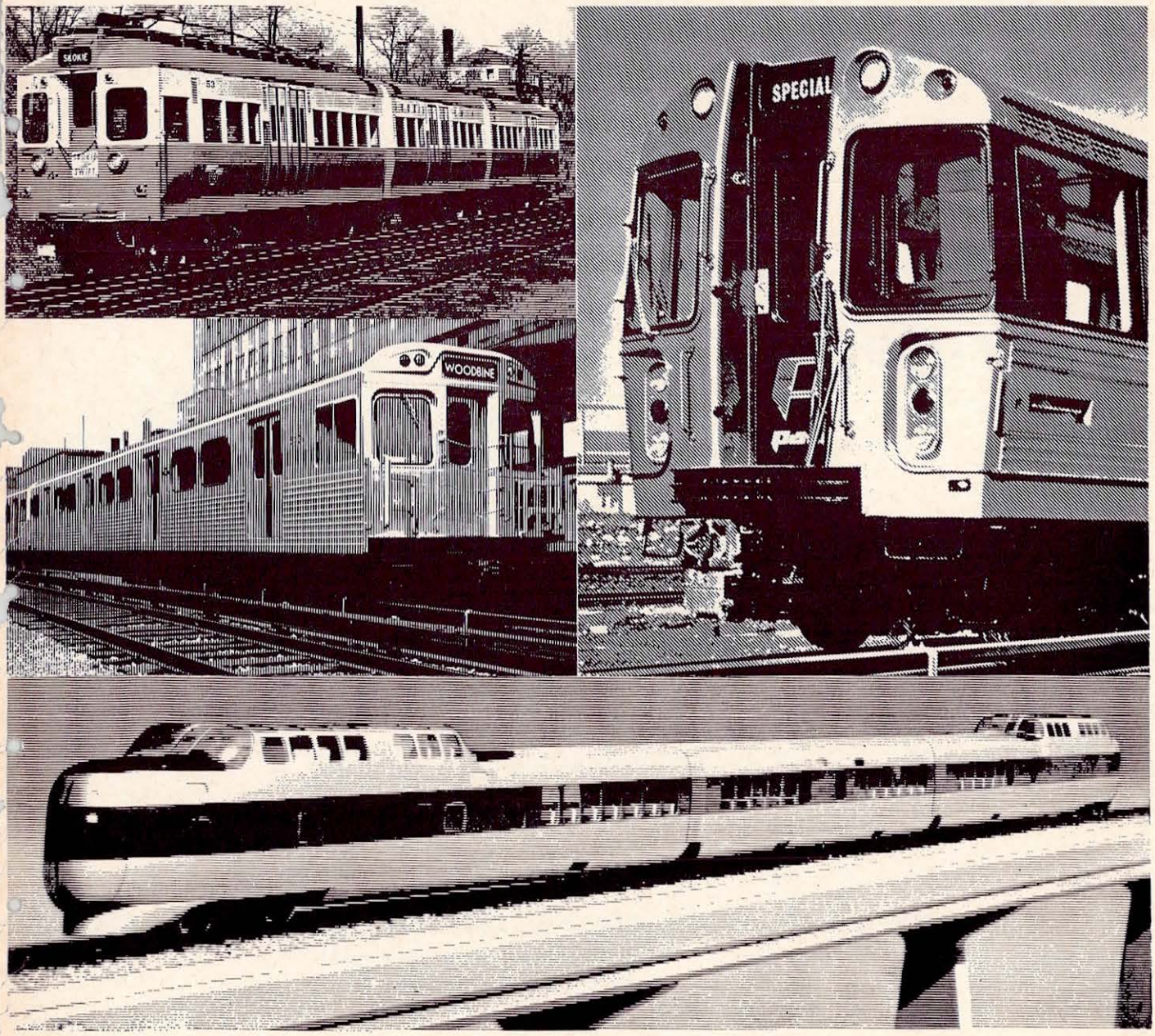




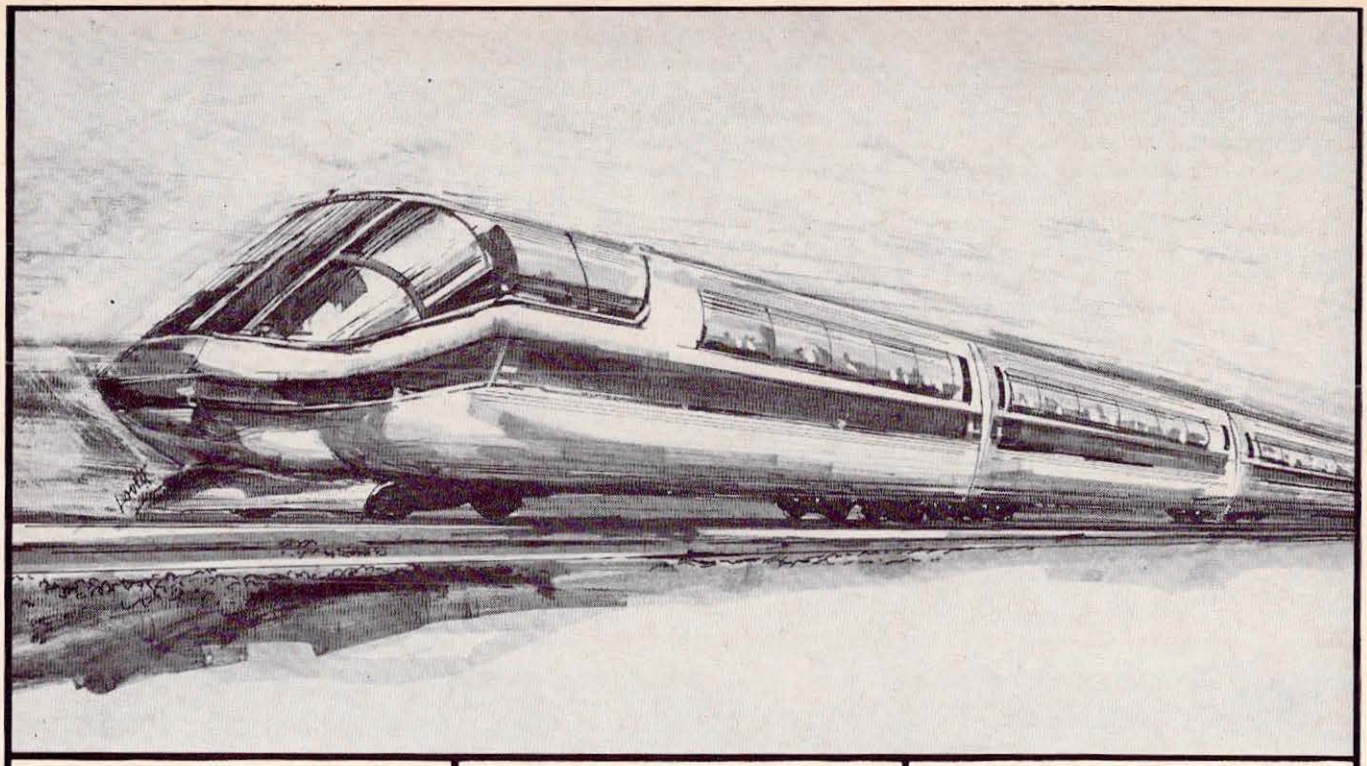
modern army move faster, travel farther. This same lightweight advantage means a faster, more efficient transit system. Less wear on brakes and engine parts. Less power requirement, too.

Aluminum is the designer's metal. Design a transit car with aluminum, and the added glamor will pay off in new passengers. Handsome Alcoa Aluminum in natural brushed, baked-acrylic, porcelain-enamel, laminated-vinyl, clear-beaded and anodized finishes is available off the shelf for your designs. Plus structural extrusions, patterned sheet, paneling, forgings, castings, trim and tread plate – beauties, all.

Alcoa Aluminum is the transit pioneer. Alcoa started the trend toward aluminum transit cars. And the idea caught on. In the past 12 years, more than 900 transit cars have been built with Alcoa Aluminum. We're ready to pioneer for you with the largest, most experienced technical staff in the aluminum industry. Our applications engineers will work with you from beginning to end with design, fabricating, finish and weight-saving techniques. Start out on the right track. Write: Aluminum Company of America, 1710-F Alcoa Building, Pittsburgh, Pa. 15219.



Circle 16 on coupon page 32



Even if you operated at 500 mph—

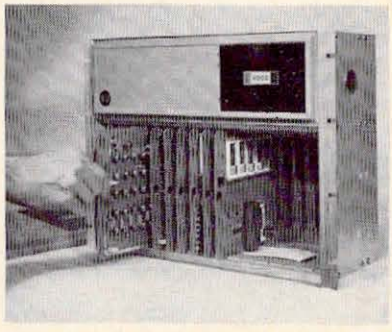
System 4000 would still be fast enough to control your traffic.

System 4000 eliminates previous restrictions on consolidation of railway traffic control. It brings in field data on a real-time basis, regardless of complexity of layouts, density of traffic, or miles of track.

You get the best possible train direction because your operator sees changes in traffic patterns *as they occur*. He can put his decisions into effect immediately (even if "he" is a computer).

For more information—and technical data—we have a 12-page illustrated brochure ready to send you—just ask.

System 4000 uses the latest development in solid-state electronics—micro-logic integrated circuits. This new technique helps eliminate "noise," extends operating life, and minimizes maintenance. Designed on a module plan, System 4000 is readily expandable.



GENERAL RAILWAY SIGNAL COMPANY

A UNIT OF GENERAL SIGNAL CORPORATION

ROCHESTER NEW YORK 14602

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MEMBER RPI RAILWAY PROGRESS INSTITUTE

3434

Some railroads don't need our oil.

But your diesels need Sinclair Gascon Diesel Lubricating Oils

Over 100 railroads use them

And they've gone a long way with them

Over ten billion miles!

PLAY SAFE—USE SINCLAIR

SINCLAIR GASCON GL-XD

A dependable, long time performer.

High lubricating ability.

Low wear rates.

Low maintenance costs.

SINCLAIR GASCON GL-SUPREME

A high dispersant oil.

Cleaner engines.

Excellent alkalinity retention.

High stability.

Sinclair Sinclair

Railway Sales New York-Chicago-Houston

Circle 18 on coupon page 32

LETTERS

Those high-speed trains

Pleasantville, N. Y.

To the Editor:

Re the special article "Who Will Ride These Trains?" appearing in the May 20 issue [p. 24] "Sad but True" might be the most accurate comment one could make to Mr. Griswold's conclusions that the planned three-hour New York-Washington Corridor schedules apparently will have only a minor effect on increasing the route's total rail ridership.

Serious questions come to mind when reviewing the step charts which suggest that as average speeds are increased, market coverages and ridership yields automatically will multiply. This could hold true only so long as the prime ridership volume sources have relatively common geographic starting and terminating points. Not only are the business travel sources not common but also each subsection market within a metropolitan area is being subjected to new controlling pressures which may tend to rather rigidly lock in existing mode choice selections for travel.

We know, for example, that with the almost total switch in recent years from rail to air (and private auto as it may apply) of business trips over two hours' duration, two important modal determinant factors have come into play. They are: the shift of the starting time of the first leg of a trip from, in round numbers, 75% afternoon and evening starts to 75% in the morning. Coincidentally, we see a related starting point change from 75% office location starts to 75% from the "bedroom."

The vital importance of the starting time and starting point travel shifts on Corridor marketing plans stems from the accelerated out-migration movements from the cities having transferred approximately three-quarters of the business travel user sources to the suburbs. Examining trip generation quotas by areas we find in the New York Metropolitan Zone that a generous 50% of suburban intercity trip origins can be assigned to Long Island; slightly over a quarter to Westchester/Fairfield. Both of these areas will continue to be more conveniently located to airports than to a rail station in the lower west side of Manhattan—a station, by the way, that is almost devoid of good parking facilities or drive-in arrangements, car rentals, and all the other desired travel perquisites.

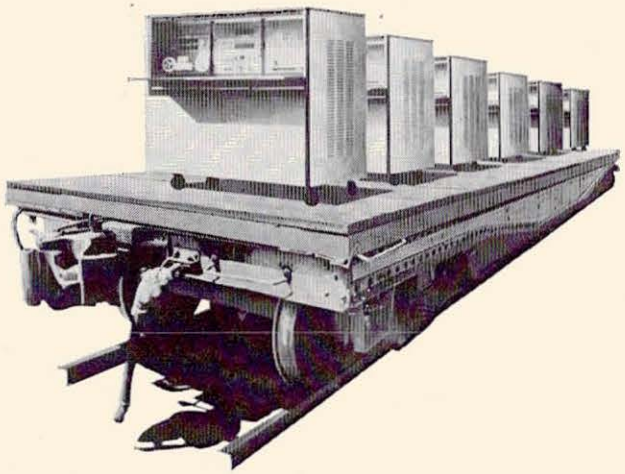
Therefore, looking at Mr. Griswold's table III, "Travel Time in Minutes between Principal Corridor Cities," one should question that its time-reduction/suggested - rail - travel - increase figures ever could hold true for anything resembling a fair proportion of the so-called city center to city center markets he evidently deems to be rail prone.

Actually, considering the diversity of origins throughout the suburban sprawl, is there a true city center market or is this just one segment of a many-faceted market? The key to reestablishing a massive city center market would be the planning and installation of comprehensive collection and distribution systems for rail travelers to and through city and suburban areas such as New York's and Washington's.

We must understand that the travel market place is not dealing with automatons who calculate things on a slide-rule basis. Rather we are dealing with people who are impulsively influenced in their decision-making by a variety of factors, large and small. With La Guardia no more than 30 minutes from a vast cross-section of Long Island, Westchester, Fairfield, what could be the sum of attractions of an in-city rail-

(*Continued on page 46*)

Production SEARCH* is 2 years old ...SEARCH Testing is 5 years old!



SEARCH production hardware was preceded by 3 years of prototype field testing—but it was worth it...

...just ask the SEARCH-equipped railroads that *are* using SEARCH 'round the clock. They're realizing *savings*...savings through more complete maintenance management—plus much quicker and more thorough maintenance, and increased fleet effectiveness.

Railroaders call SEARCH a maintenance tool...a tool that automatically checks all electrical wiring and components in today's and tomorrow's locomotives and verifies that locomotive performance meets specifications.

How come your railroad isn't saving with SEARCH too? For more details and *Field Result Data Reports* contact our SEARCH Marketing Department.

*Trademark of Dalmo Victor, A Textron Division

DALMO VICTOR 1515 INDUSTRIAL WAY · BELMONT, CALIFORNIA 94002 A textron DIVISION

Your job is to move goods.
His job is to design a communications system to help you.
He's the Stromberg-Carlson Man-on-the-Scene

Carrying freight and carrying messages have a lot in common. Problems are similar. Solutions are similar.
So our Man-on-the-Scene would know a great deal about railroading even if he hadn't specialized in railway communication systems. *Which helps explain why more than half of the major railroads that operate their own communication systems buy them from Stromberg-Carlson.* Our systems in actual service include: 124 PABX's (serving over 10,100 lines and 15,100 telephones). 33 four-wire switching systems (handling 1235 circuits). 130 message-circuit dialing systems (serving 2600 stations) . . . plus multiplex, subscriber carrier, and dispatcher tone dialing systems.

This is only a fraction of what we're doing to help railroads deliver the messages that help deliver the goods.

And every system, every piece of equipment, is fully backed by our total support services. For more information, call 716-482-2200. Or write Railroad Division, 100 Carlson Road, Rochester, N. Y. 14603.

Stromberg-Carlson
A Subsidiary of General Dynamics

A Standing Rule Safe, Rubber Transit-Flor

Entering, leaving or standing, passengers are safer on resilient rubber flooring . . . and Transit-Flor is the leader. Sure footing, eye appeal and durability with only scant maintenance have made Transit-Flor a standing rule with major transit companies.

Smooth surface and ribbed designs are available in marbleized and terrazzo patterns color-coordinated for original or existing equipment. Rubber flooring is manufactured in rolls up to 38 inches wide and 25 yards long, or in 9″ x 9″ tiles.

Transit-Treads Rubber treads assure maximum safety and wear on steps and threshold areas, and they are color-coordinated with Transit-Flor. Optional white or yellow safety nosing is an integral part of the tread.

Test a free sample, write:

THE R.C.A. RUBBER COMPANY
An Ohio Corp. of Akron, Ohio
1833 E. Market St., Akron, Ohio 44305
Circle 21 on coupon page 32

GN's new ticket system saves money

You go greater today when you go Great Northern. This paraphrasing of GN's famous slogan results from the road's improvements in passenger ticket handling. A redesigned ticket form, the application of embossed plastic plates with routing and cost data, imprinting machines plus use of an optical character recognition device have greatly improved customer service and passenger accounting.

Benefits of the new ticket forms and routines are many:

—Better customer service, with much less time required to prepare passenger tickets.

—Ticket inventory was reduced from 75 different forms to only four. Savings in cost of printing tickets alone were about $8,000 annually.

—Labor-cost savings resulting from automatic data input through using an optical character recognition device are $30,000 annually.

—More accurate input control, because most of the data are derived from the original ticket and not through transcription by one means or another.

—Complete audit and ticket inventory control.

GN sells about 50,000 tickets monthly from 264 ticket offices. Of these, 92 offices account for about 98% of all tickets sold. Accordingly, these offices use the imprinted passenger ticket system. The remaining ticket offices use the new ticket form, but prepare it manually.

• **Similar to airline tickets.** Taking a page from airline ticket preparation and procedures, GN uses a four-part ticket, upon which much information is imprinted by use of embossed plastic plates. Supplied by Addressograph-Multigraph Corp. and Burnett Business Systems, they are similar to the familiar credit card. A-M hand-operated and Dashew Electric imprinters are used by ticket agents. Where volume is high, the electric imprinter is used to save time, as well as to ease the burden on the agent.

After imprinting routing, validation data (agent's number and station), and charges on a ticket, the agent only has to circle numbers preprinted on the ticket form to indicate type of passenger (railroad employee, clergy), rail travel credit card, American Express credit card or Rail Travel promotion agency, and number of passengers.

The agent removes the accounting copy and gives the passenger the top three parts; the cover with GN passenger train photograph and insignia, the ticket coupon and the passenger receipt.

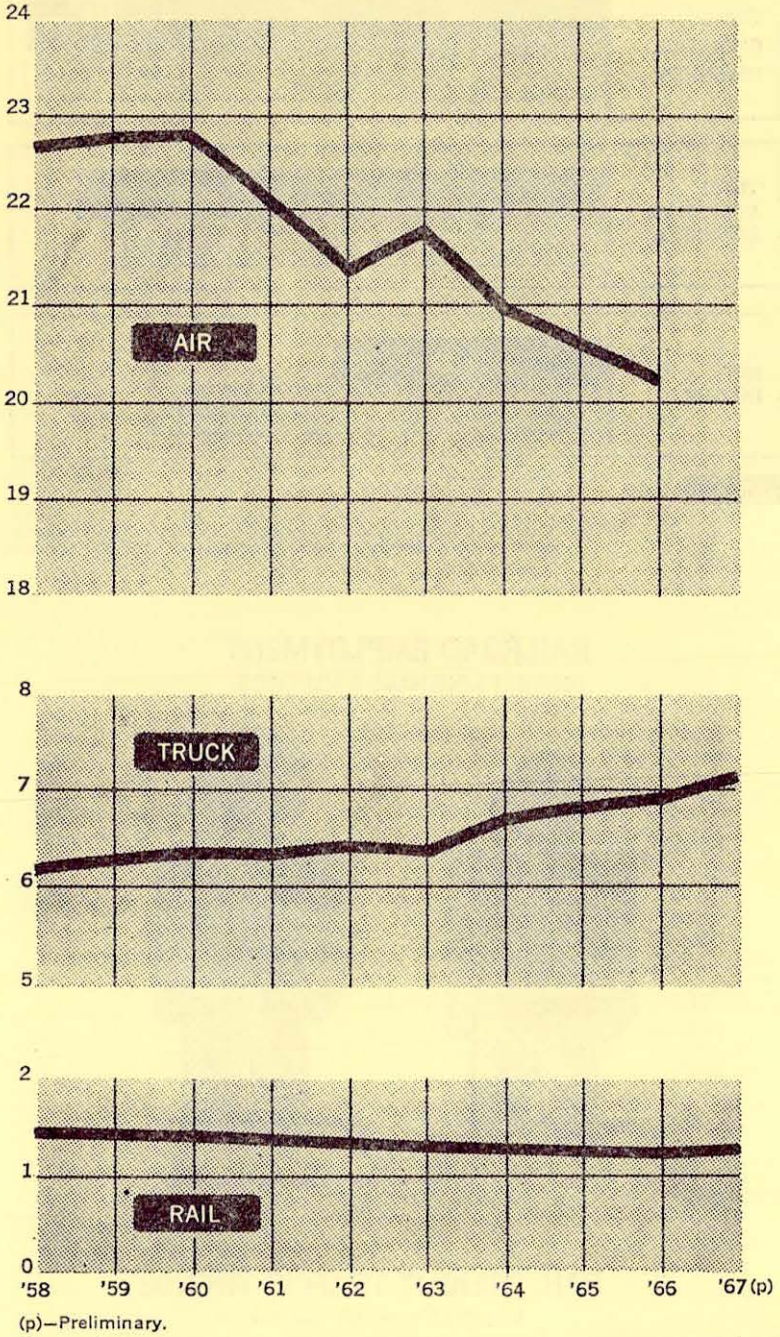
• **Automatic input to computer.** The accounting copy, forwarded to the general office at St. Paul, is fed into a Control Data Corp. 915 page reader. This unit reads all letters, special punctuation, numbers 0 through 9 and special symbols used in programmed functions. This optical scanner sorts the ticket accounting copies into two pockets: one for those requiring additional handling and one for those which are complete.

Complete or correct copies are read by the 915 and data are automatically fed into the computer processing system. After the other copies have been properly completed, they are read by the optical reader.

The final step in the new passenger ticket system is the receipt of the coupon representing part or completion of transportation honored by conductors. This coupon is read by the optical scanner for form number and ticket number. When matched to original data created from the accounting copy of the passenger ticket, it provides the clearing of completed tickets from those outstanding or unused. ■

AVERAGE REVENUE PER TON-MILE

(in cents)



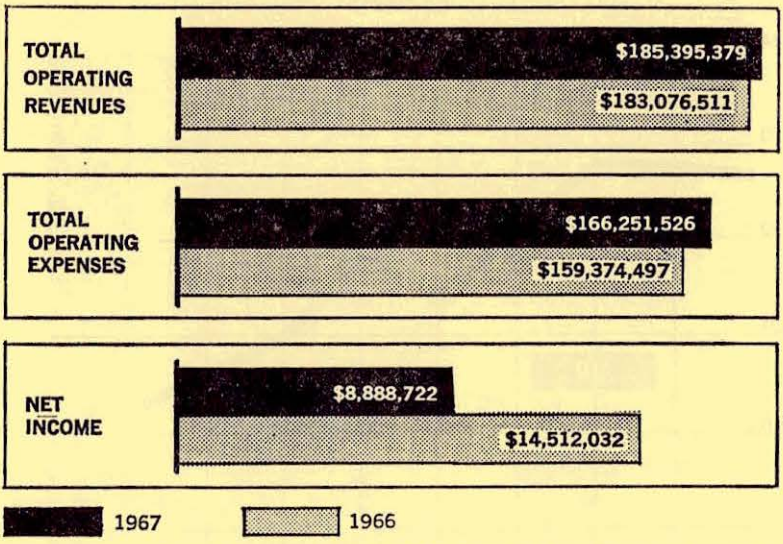
(p)—Preliminary.

Source: Transportation Association of America. Air figure for 1967 is not available.

Current statistics

Carloadings, revenue freight	
20 wks., 1968	10,559,860
20 wks., 1967	10,701,177
New freight cars on order	
May 1, 1968	20,364
May 1, 1967	34,960
New freight cars delivered	
4 mos., 1968	21,953
4 mos., 1967	32,785
Serviceable cars	
Apr. 1, 1968	1,401,160
Apr. 1, 1967	1,422,997

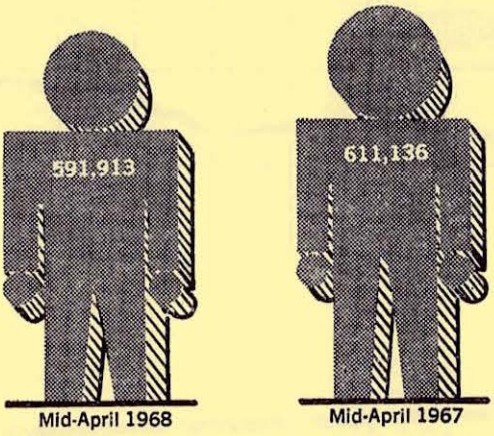
FREIGHT FORWARDERS—SELECTED STATISTICS



Source: Bureau of Accounts, ICC. Compiled from 60 quarterly reports of forwarders with annual gross revenues of $100,000 or more.

RAILROAD EMPLOYMENT

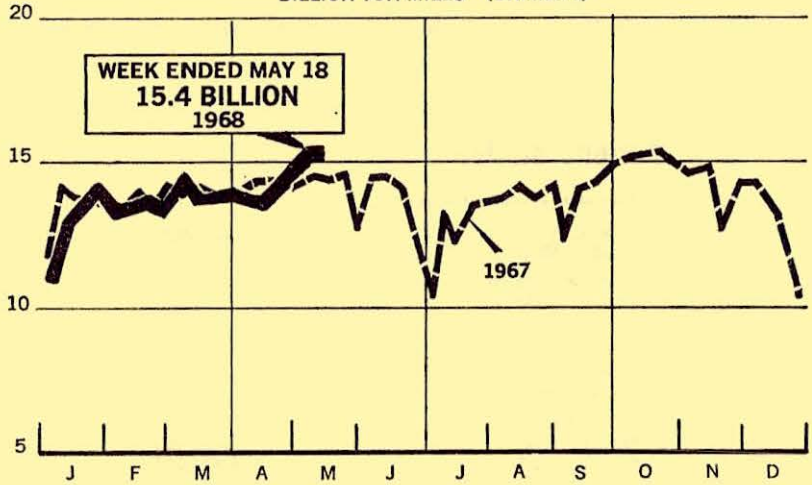
(CLASS I LINE-HAUL RAILROADS)



Source: Bureau of Accounts, ICC.

RAIL FREIGHT TRAFFIC TRENDS

BILLION TON-MILES (Estimated)



Source: Association of American Railroads

MARKET OUTLOOK

CARLOADINGS

Loadings of revenue freight in the week ended May 25 were not available as this issue went to press.

PIGGYBACK CARLOADINGS

U. S. piggyback loadings for the week ended May 18 totaled 25,883 cars, carrying 40,979 trailers, compared with 24,180 cars, carrying 40,281 trailers, in the corresponding 1967 week. Loadings for 1968 up to May 18 totaled 496,047 cars, carrying 802,511 trailers, compared with 448,068 cars, carrying 736,813 trailers, in the corresponding period of 1967.

IN CANADA

Carloadings for the seven-day period ended May 7 totaled 75,568 cars, compared with 98,276 cars for the previous nine-day period, according to the Dominion Bureau of Statistics.

	Revenue Cars Loaded	Total Cars Rec'd. from Connections
Totals for Canada		
May 7, 1968	75,568	27,385
May 7, 1967	75,003	25,570
Cumulative Totals		
May 7, 1968	1,238,960	442,905
May 7, 1967	1,263,865	454,626

Budd's railroad earnings are off

Budd Company had a profitable '68 first quarter—the best first quarter since 1960—but no thanks to the company's railroad operations.

Budd President Philip W. Scott said first quarter earnings after taxes rose to $2.8 million, or 63 cents per common share, compared with $691,000 in the first quarter 1967.

But, said Scott, "Railway operations have not helped the profit picture in 1968, and they have been a drain on profits to date." He said development of the new high-speed cars for the Northeast Corridor has been an expensive undertaking.

"While we know that this project added greatly to our knowledge, it will cost us money and show a loss, but the amount of the loss cannot now be determined. There were many contract revisions asked for by the government and our customer, the railroad. There are involved contract matters between the Budd Company and its suppliers that are not capable of measurement at this time, but in spite of all these complications, the project is a first for the industry and of great technological benefit to the Budd Company."

ORDERS AND DELIVERIES

● Orders were placed in April for 3,344 new freight cars, compared with 4,188 in March, and 1,728 in April 1967, according to the American Railway Car Institute and the Association of American Railroads. The continued pressure on railroad capital spending due to financial stringency was again reflected in a drop in the backlog of new and rebuilt cars on order and undelivered. As of May 1, only 27,165 new and rebuilt cars were on order but undelivered, compared with 30,193 last month and 43,626 on May 1 a year ago. Railroad shops received orders for 842 new freight cars in April, while contract car builders received orders for 2,502. In addition, 401 cars were ordered reconstructed, compared to 41 in March and none in April of last year. New and rebuilt cars added to the nation's railroad car fleet in April amounted to 6,634, compared to 6,946 in March and 9,062 in April, 1967.

FREIGHT TRAIN CARS DELIVERED AND ORDERED IN APRIL AND BACKLOG OF ORDERS ON MAY 1—ALL RAILROADS AND PRIVATE CAR LINES

Delivered

	April, 1968	March, 1968	April, 1967
Built new by car builders	3,395	3,978	6,466
Built new in R.R. shops	2,379	1,734	1,845
Built new—total	5,774	5,712	8,311
Rebuilt	860	1,234	751
TOTAL DELIVERED	6,634	6,946	9,062

Ordered

To be built new by car builders	2,502	3,408	1,444
To be built new in R.R. shops	842	780	284
To be built new—total	3,344	4,188	1,728
To be rebuilt	401	41	0
TOTAL ORDERED	3,745	4,229	1,728

On Order And Undelivered

	May 1, 1968	April 1, 1968	May 1, 1967
To be built new by car builders	10,862	11,894	26,515
To be built new in R.R. shops	9,502	11,039	8,445
To be built new—total	20,364	22,933	34,960
To be rebuilt	6,801	7,260	8,666
TOTAL ON ORDER	27,165	30,193	43,626

NEW FACILITIES

● *Canadian National.*—Plans to spend $2 million on its line between Brule, Alta., and Red Pass Junction, B.C. this summer. More than 8 miles of siding will be built and a centralized traffic control system will be installed at the end of sidings to speed train movements. The section of line handled 21 million ton miles of traffic last year, and CN expects an 11½% increase in gross ton miles when the line work has been completed.

CAPITAL EXPENDITURES

● *Western Pacific.*—Will spend $8.5 million in capital expenditures this year, down from $11 million last year. WP President M.M. Christy said the figure might increase if the road decides to buy some equipment instead of leasing it.

YOU OUGHT TO KNOW

Sylvania will license ACI system to Canadian firm

Negotiations are under way for the manufacture and sale of the KarTrak automatic car identification system. CAE Industries Ltd., of Montreal, Que., will sell the ACI system in Canada only. It is understood that a flat fee of $200,000 will be paid by CAE to Sylvania Electric Products Inc., based upon Canada representing 10% of the ACI total market. Royalties to be paid by CAE to Sylvania are reported to be on a sliding scale—6% of sales in 1968, 5% of sales in 1969, 4% in 1970 and 3% in 1971.

U.S. freight earnings stay at high level

For the 32d consecutive quarter, the giant freight forwarder, U.S. Freight Co., reported record earnings from its operations. Net income for the first three months of 1968 amounted to $2.4 million, up 9% from last year. It added another 71% to net income per share from a special sale of securities. The company announced plans to begin through-container services between Norway, Sweden and Denmark and major U.S. cities.

Boyd to speak at Baltimore container show

DOT Secretary Alan S. Boyd is one of the speakers on the program being planned for the Second International Container Services & Equipment Exposition in Baltimore, Oct. 28-Nov. 1. Boyd will address a special luncheon marking the close of a series of symposia to be held in connection with the exposition in the Civic Center. The exposition will feature displays of a wide variety of container services, handling and equipment from a number of participating nations.

More trophies for C&NW's commuter ads

Winning awards for its commuter-service advertising is getting to be a habit for Chicago & North Western. Already the possessor of one Hermes award from the Chicago Advertising Club, North Western wound up this year's competition with two more—both for radio spot commercials. Compton Advertising is C&NW's agency.

Aeroquip to join Libby-Owens-Ford as subsidiary

Libby-Owens-Ford Co., manufacturer of a wide-range of flat glass products for the automotive and construction industries, plans to merge with Aeroquip Corp., the two companies have announced. Aeroquip makes flexible hose lines and fittings, self-sealing couplings, industrial rubber products and load control and tie-down equipment. In the fiscal year ended Sept. 30, 1967, Aeroquip had net earnings of $7.1 million, its sixth successive record year.

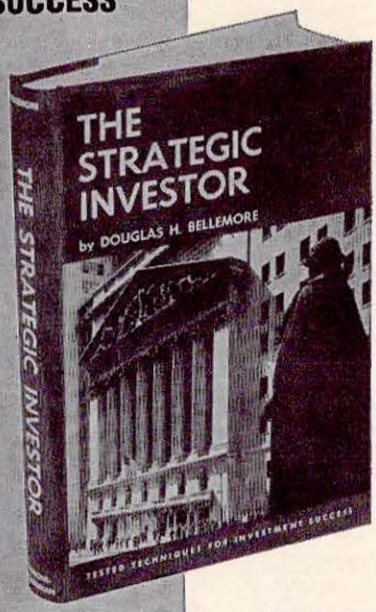
Railroads honor Ohio newsman for popular editorial

Darrel Mansell, a columnist and editorial writer for the Canton, Ohio, *Repository*, has written an editorial favorable to the railroads that has gotten more mileage than some name trains. The piece, "If Railroads Did Not Exist—the U.S. Would Have to Invent Them," has been widely reprinted, and is credited with helping to secure federal legislation on incentive rates, unit trains and rack car movements. AAR President Thomas M. Goodfellow, through Charles A. Thoma, vice president, Norfolk & Western, (right) presented Mansell with a framed reproduction of the editorial.

TESTED TECHNIQUES FOR INVESTMENT SUCCESS

THE STRATEGIC INVESTOR

by Douglas H. Bellemore, Registered Investment Adviser



A step-by-step guide containing a host of plans aimed at achieving specific investment goals. The author's *conservative* investment plans aims at achieving $100,000 by retirement age. This plan requires only an investment of $500 a year during the first 10 year period—if the investor starts at 30. There are clear, easy-to-understand programs for other age groups and many varied investment goals. For the aggressive investor, willing to devote the necessary time and effort, there's an investment plan aimed at a goal of $200,000 (and more depending on funds invested) by retirement time. Another example shows how an investment of $1,000 a year from ages 30 to 65 (with reinvestment of dividends) could result in the accumulation of about $236,000.

You can gain a professional level of insight on such vital topics as— • Types of investment objectives • Six traits of the successful investor • Lessons of financial history that you must know • Pitfalls to avoid—investment risks • Best information sources & how to use them • Understanding security analysis • Pros and cons of investment advice • Your individual overall program • Basic portfolio policies for successful investing.

MAIL THIS COUPON TO ▶

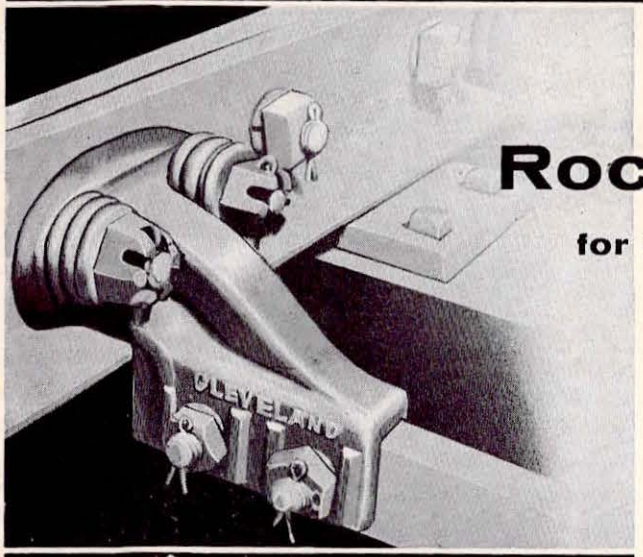
Simmons-Boardman Books, Dept. 7
30 Church Street, New York, N.Y. 10007

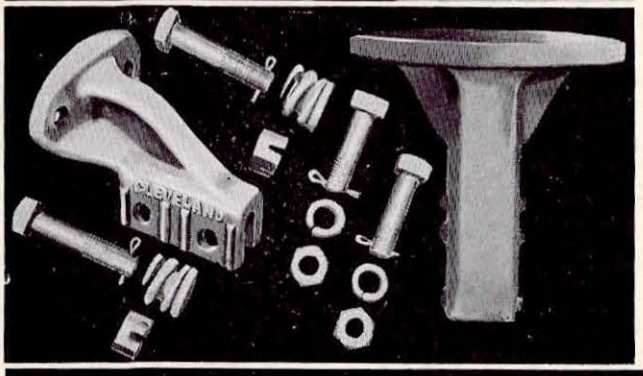
Please send me The Strategic Investor by Douglas H. Bellemore. I enclose herewith remittance of $7.50 with the understanding that if I am not completely satisfied I can return it in ten days for FULL REFUND.

Name_____

Address_____

City_____ Zip Code_____ State_____





CLEVELAND
Rocker Switch Clips

for use with vertical switch rods

The Rocker Switch Clip is made from a single casting with no sliding or rubbing surfaces, as in conventional type clips. The Clip also has a curved surface where it abuts the switch point reinforcing bar.

Head locks are provided on both sides of the jaw so bolts may be inserted from either side as desired and bolts for attaching the clip to the switch point are equipped with powerful springs which hold the clip in tight contact with point, yet readily permit the slight rocking movement when the switch is thrown. This double spring design is why most major Class 1 Railroads use Cleveland Rocker Switch Clips.

CLEVELAND FROG AND CROSSING CO.
Subsidiary of Pettibone Mulliken Corporation
6917 Bessemer Ave., S. E. Cleveland, Ohio 44127

Circle 22 on coupon page 32

Freight and Passenger Car Charts

These charts are very helpful to AAR billing clerks, mechanical engineers, purchasing and stores personnel, car inspectors, write-up men, car foremen, and anyone else who needs a knowledge of car parts and their relation to each other.

The charts include a cutaway diagram of the car and a listing of important parts with arrows showing where each is located. These charts are a part of standard training programs used on a number of major railroads.

$2 each

$10 for any six

If you are not satisfied

YOUR MONEY WILL BE REFUNDED

if you return the charts to us within 30 days

THE RAILWAY EDUCATIONAL BUREAU
1809 CAPITOL AVENUE
OMAHA 2, NEBRASKA

Please send the charts I have checked below. If I am not satisfied I will return the charts within 30 days for a full refund. I enclose a check or money order for $2.00 for each chart or $10.00 for any six charts.

- ☐ Streamlined light weight passenger car (16x25 inches)
- ☐ Covered hopper car (20x30 inches)
- ☐ Box car, AAR standard 40 ft. (23x25 inches)
- ☐ Air conditioned chair car, 1930 design (18x35 inches)
- ☐ Tank Car (22x35 inches)
- ☐ Refrigerator Car, wood sheathed, steel underframe, 1920 design (14x20 inches)

6/3/68

Name _____

Address _____

City _____ State _____

_____ RR _____

(*Continued from page 38*)

head when such a large percentage of trip originations are from the suburban areas just mentioned? . . .

Finally, are not the two-hour schedule plots something that borders on fantasy until ways are found to justify and build a totally passenger-oriented rail operation? It is difficult to conceive of satisfactorily commingling passenger trains operating at speeds far in excess of 100 mph with the sizable fleet of freight trains and commuter passenger trains to be found on adjacent tracks. Sensibly, the three-hour schedule or something very close to it well may prove to be the optimum possible.

Assuming that we do not tap much of a new business travel market with the three-hour schedules, where does a possible volume future lie for the Corridor rail operations? Mr. Griswold hints very strongly at the substantial size of an underlying market which is highly fare-prone. He probably has touched upon the one group which could be induced to come to the rescue of Corridor ridership hopes if and when this area is properly studied and exploited.

The concept of a people's market rests on a foundation of travel which is more or less spontaneously induced by a combination of service and pricing that proves to be acceptable on a mass basis. Trip pricing must be based not on linear construction of fares as related to mileage, but rather as to what a given travel leg or trip is considered to be worth in the customer's minds.

Many good examples of these mass-travel markets exist. Perhaps one of the more illuminating is that involving travel between Los Angeles and San Francisco. For many years despite a burgeoning economy and population, the *total* movement of common-carrier travel stayed at rather constant levels. For some 20 years this level was 5,000 riders per day, first by rail and finally by air. Not until local air carriers invaded this travel market about four years ago, chopping some fares to $12 with tax, did the common carrier total begin to increase. Now countless thousands make this trip at $12 at the drop of a hat.

We may have to swallow some of our pride re the Corridor and we certainly are going to have to take serious second looks at the proposed pricing structures if it is to move the eventual number of riders the planners have in mind.

Carl R. Englund, Jr.
Transportation Consultant

Announcing a new, completely revised and expanded edition of:

WHO'S WHO IN RAILROADING

Here is a new and thoroughly up-to-date edition which contains biographical sketches of executives in the railroad industry, including rapid transit, railway supply, labor leaders, members of regulatory bodies, transportation economists, railway finance specialists, educators, selected consultants, and editors, in the transportation industry.

Reserve your copy of this unique volume by filling out the advance order form below.

WHO'S WHO IN RAILROADING
30 CHURCH STREET, NEW YORK, N.Y. 10007

Reserve ..... copy(s) of the 16th edition of "WHO'S WHO IN RAILROADING" at the special pre-publication price.

- ☐ I enclose $20.00* per copy in full payment.
- ☐ Bill me $23.00* per copy on publication and ship postpaid.

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.....

Street .....

City-State ..... Zip.....

*To be published in late 1968 at $25.00 per copy. 6/3/68

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C F & I Steel Corporation 22-23
Cleveland Frog & Crossing Company, Subsidiary of Pettibone Mulliken Corp. 45
Dalmo Victor Company 38
Farrel Corporation 4
General American Transportation Corporation 26
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International Nickel Company, Inc., The 9
Kaiser Aluminum & Chemical Corp. 14
Lenkurt Electric Company 6
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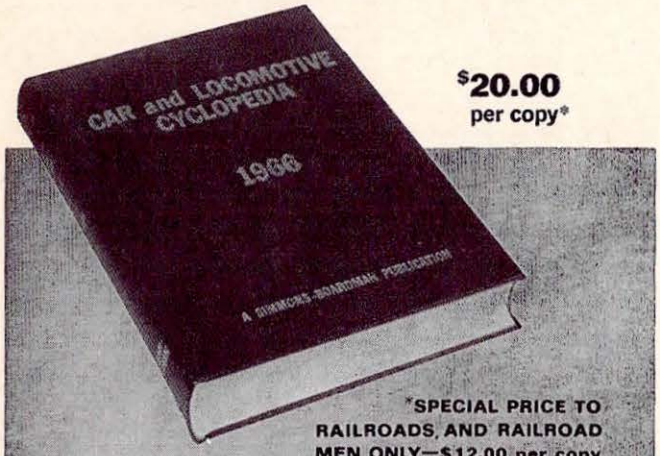

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VIEWPOINT

Toronto's transit setup points the way to success

Clever people, those folks in Toronto. They have one of North America's best rapid-transit systems, including (since May 10) the newest subway operation on the continent. They also have a railroad commuter service which went from nothing right up to near-capacity operation in less than a year. They have people clamoring for new rail-based services. They have, in short, what seems to be a solid base on which to build rational systems for the massive people-moving job that faces metropolitan areas.

It should be noted, however, that Canadians generally and Torontoans specifically have a couple of things going for them: (1) Canada's provinces operate basically on a general-fund revenue basis, and (2) Toronto and its suburbs, years ago, reached a metropolitan agreement covering the provision of major regional services.

One result has been that the Ontario government can launch a service like GO Transit, put capital investment into it, give operating subsidies and even administer the project through the provincial department of highways, without producing highway-interests' charges that the whole thing is some kind of nefarious scheme to steal from highway tax funds.

Another result is that a Toronto subway system can stretch out into the suburbs—and the two extensions opened May 10 were the first to do just that—without raising all sorts of questions, legal and otherwise, about who pays for what and who should, therefore, get what.

This is not to say that the U.S. has been a laggard. Genuine mass-transportation pioneering has been done, south of the border as well as north. Still, there's a feeling that we Yanks are somewhat more susceptible—perhaps too susceptible—to the kind of bickering that can be described only as petty, in the light of the serious and continuing problems involved.

THE INFIGHTING HAS BEEN TERRIFIC

The record, unfortunately, shows that too many urban mass-transportation facilities were allowed to die, or at least to become critically ill before anybody bothered to seek a cure. The record shows one set of planners or another gaining pre-eminence and power in one area or another and then imposing less-than-balanced solutions. The record shows an almost-constant battle between highway interests and those who would use highway-related funds for broader transportation purposes. The record shows suburbs afraid they're being "taken" by the city, while a large number of city dwellers don't trust the suburbanites, either.

Somewhere, sometime, the balance has to be struck. For years, the solution to urban mass-transport problems was to buy more concrete. That didn't work. Now, there is a resurgence of enthusiasm for rail-based systems. But even the highly-efficient rapid-transit system isn't the total answer.

There has to be balance, coordination, rationality in choice. And Toronto just seems to be doing a pretty good job in its choices.

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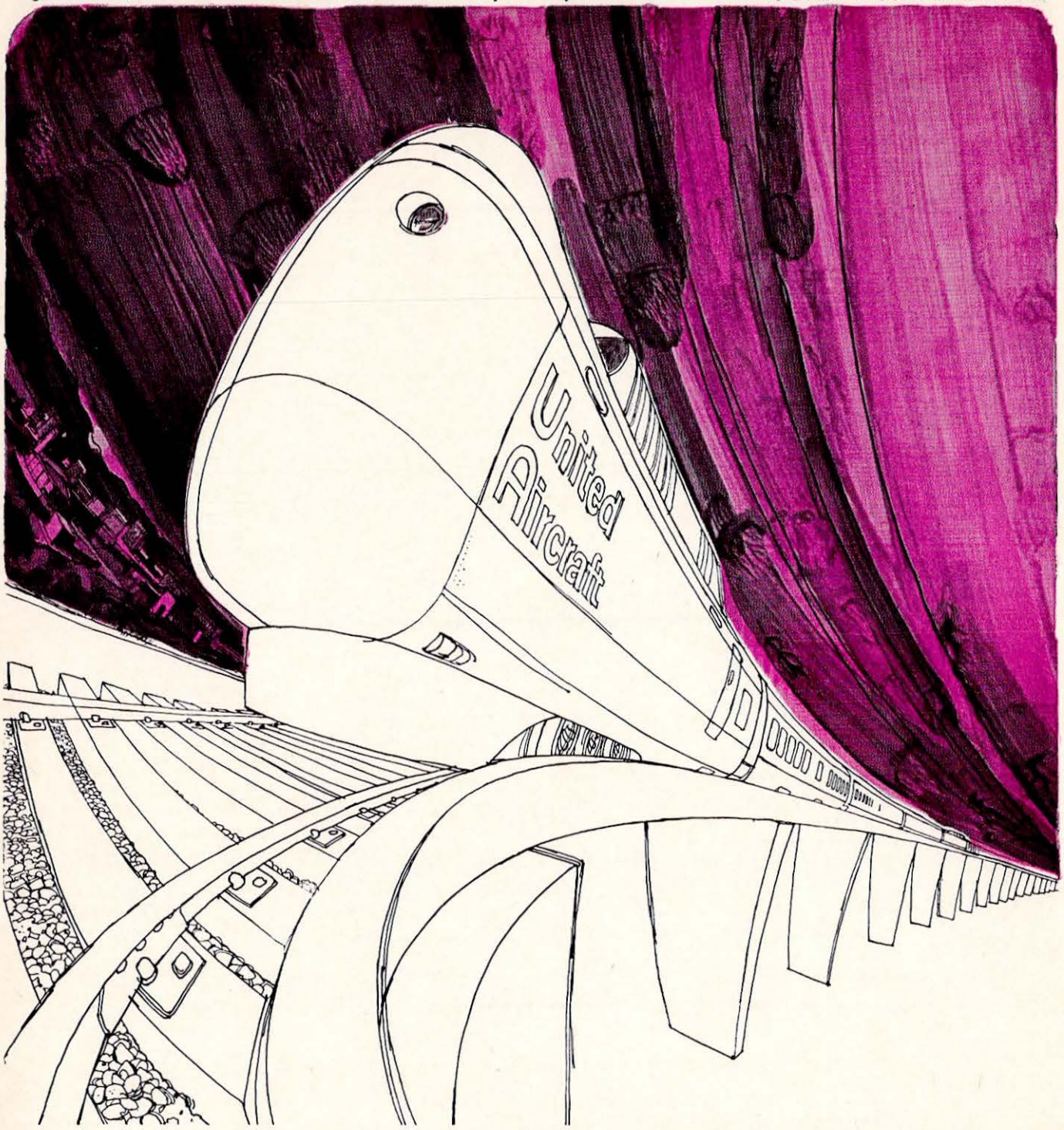

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